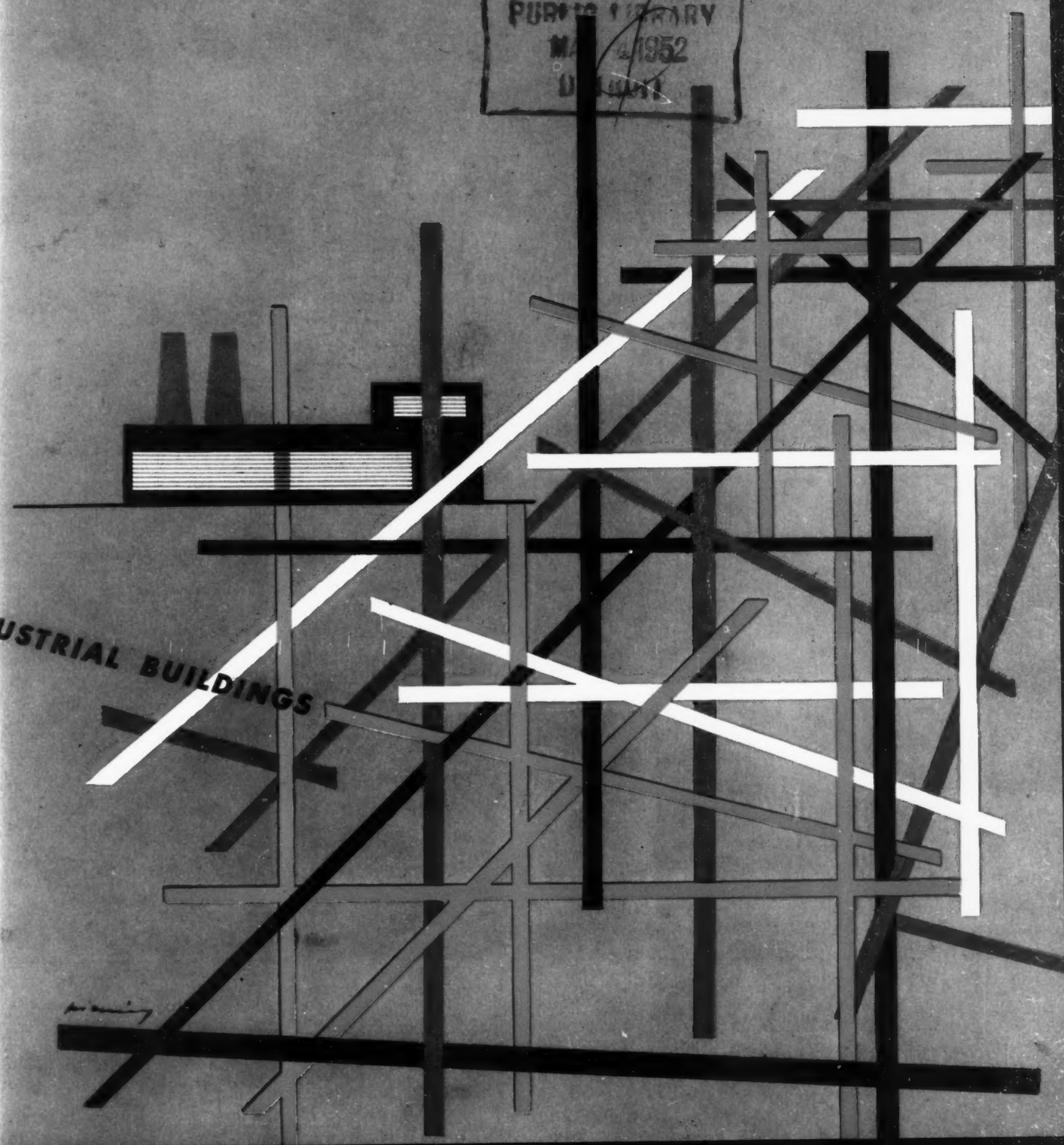
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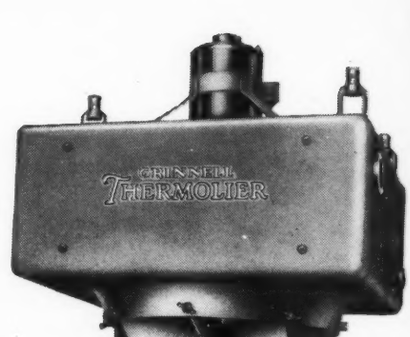
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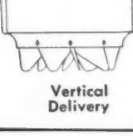
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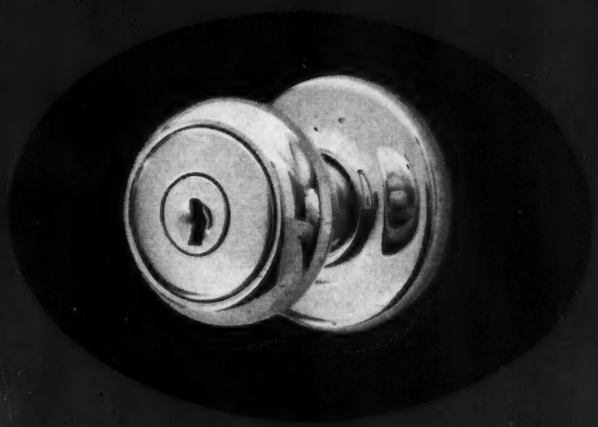
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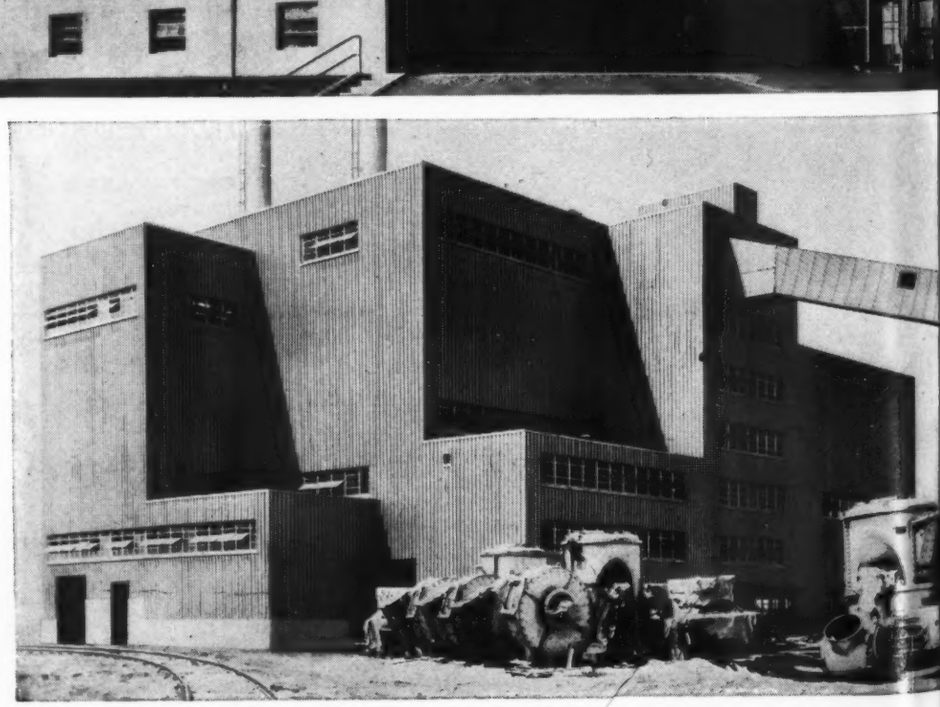
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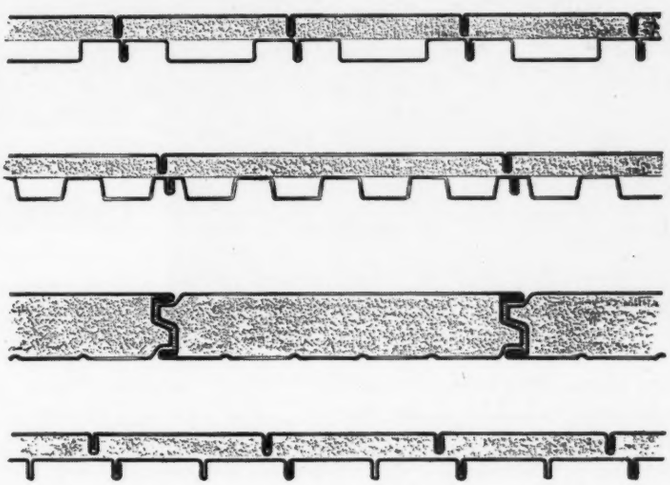
Shortages of certain alloying elements, notably nickel, have greatly limited supplies of some Stainless grades. But straight-chromium grades, including U·S·S 17 (Type 430) and U·S·S 12 (Type 410), are relatively plentiful and are well suited to this type of architectural application. In fact, three new multi-story office buildings in Pittsburgh's impressive Gateway Center are being built with exteriors of Type 430 Stainless.

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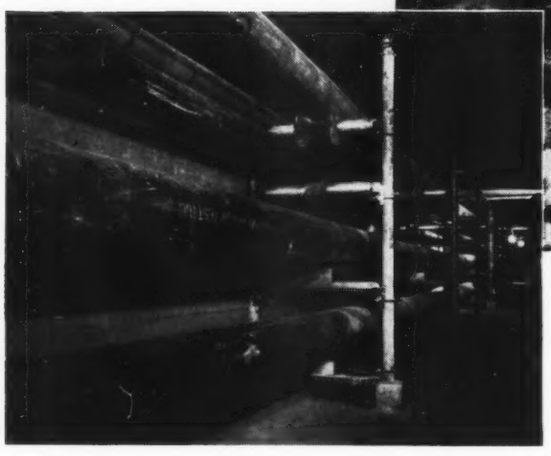
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Vol. 111 · No. 2 *February 1952*

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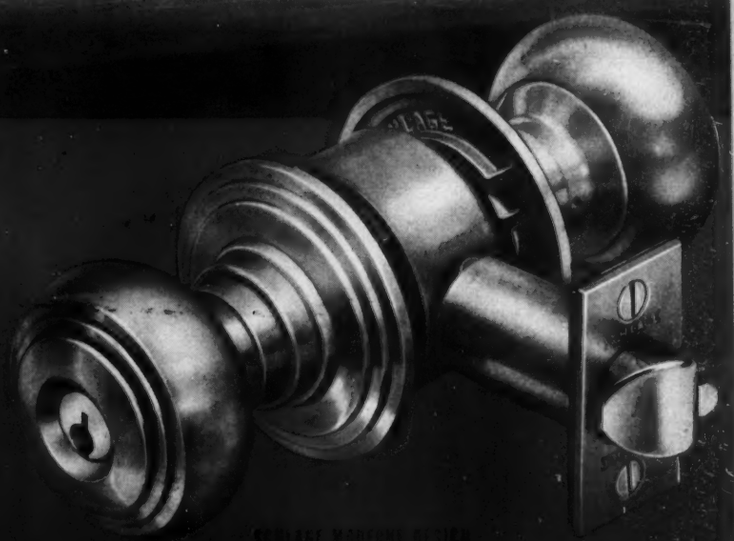
SCHLAGE® CYLINDRICAL LOCKS...Time-Proven



In 15 years, no replacements...no repairs to SCHLAGE LOCKS installed at Western Merchandise Mart, San Francisco

Few buildings give locks heavier use than this "billion dollar market center of the West."

The 1100 Schlage Cylindrical Locks at the Western Merchandise Mart began their record of trouble-free service in 1937. Ten years later a wing was added and 700 more Schlage Locks were installed. "We specified these on the strength of Schlage's performance in our main structure," says "The Mart's" President, Frank K. Runyan. "And we have not had to replace or repair a single lock."



SCHLAGE®

THE Time-Proven CYLINDRICAL LOCK

SCHLAGE LOCK COMPANY · 2201 BAYSHORE HIGHWAY, SAN FRANCISCO, CALIFORNIA

SCHLAGE LOCK COMPANY OF CANADA, LTD. · VANCOUVER, B. C.



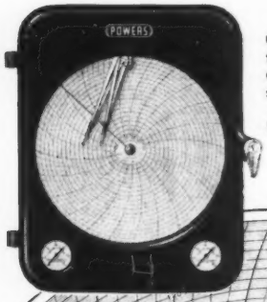
Uses **POWERS** System of

AIR CONDITIONING CONTROL



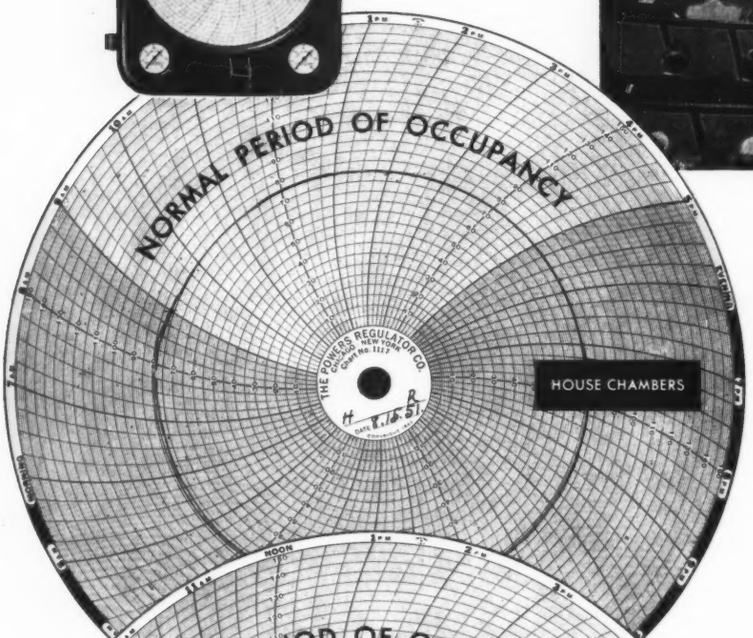
Right: Joint session of the Congress in the recently remodeled House of Representatives—listening to "State of the Union" address by the President.

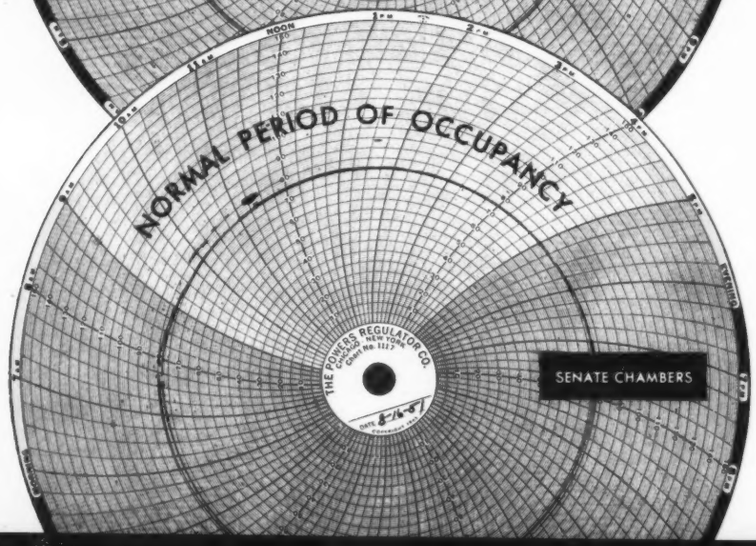
In the historic House and Senate Chambers as well as the administrative offices in the Capitol, heating and air conditioning systems are regulated by a Powers system of pneumatic control.



Only a few of the many types of Powers Control used in the Capitol are shown here.

Left: Powers Two-pen Recording Controller.





World's Largest and Most Comfortable Legislative Hall is Regulated by—

POWERS AIR CONDITIONING CONTROL

◀ **Note Accurate Control in House and Senate Chambers**

Outdoor temperatures, during the period covered by the temperature charts varied between 75 and 95° F., yet indoor temperature was maintained constant from 9 A. M. to 5 P. M. One temperature sensitive bulb is located near the speaker's rostrum, another is in the gallery. Note separate lines during the off period of control and how the two lines merge into one when Chambers were occupied.

THE POWERS REGULATOR CO.

3400 OAKTON ST., SKOKIE, ILLINOIS • Offices in Over 50 Cities

Chicago 13, Ill., 3819 N. Ashland Ave. • New York 17, N. Y., 231 E. 46th Street
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Over 60 Years of Automatic Temperature and Humidity Control



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Architect
David Lynn

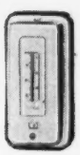
Consulting Engineer
for Air Conditioning
Charles S. Leopold

Contractor
Mehring & Hanson Co.

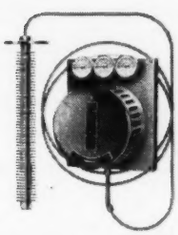
Other Washington Buildings using POWERS Control

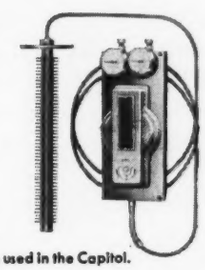
Department of Agriculture and Post Office Department Bldgs., Department of Interior and Old House of Representatives Office Bldgs., Social Security R. R. Retirement Bldg., Apex Bldg., Lafayette Bldg., U. S. Navy Hydrographic Bldg., Washington National Airport.

Experience gained by Powers in supplying dependable temperature and humidity regulation for these buildings may be helpful to you. When your problems involve precise control for heating or air conditioning, contact Powers nearest office . . . in over 50 cities.



Powers Room Type Thermostat

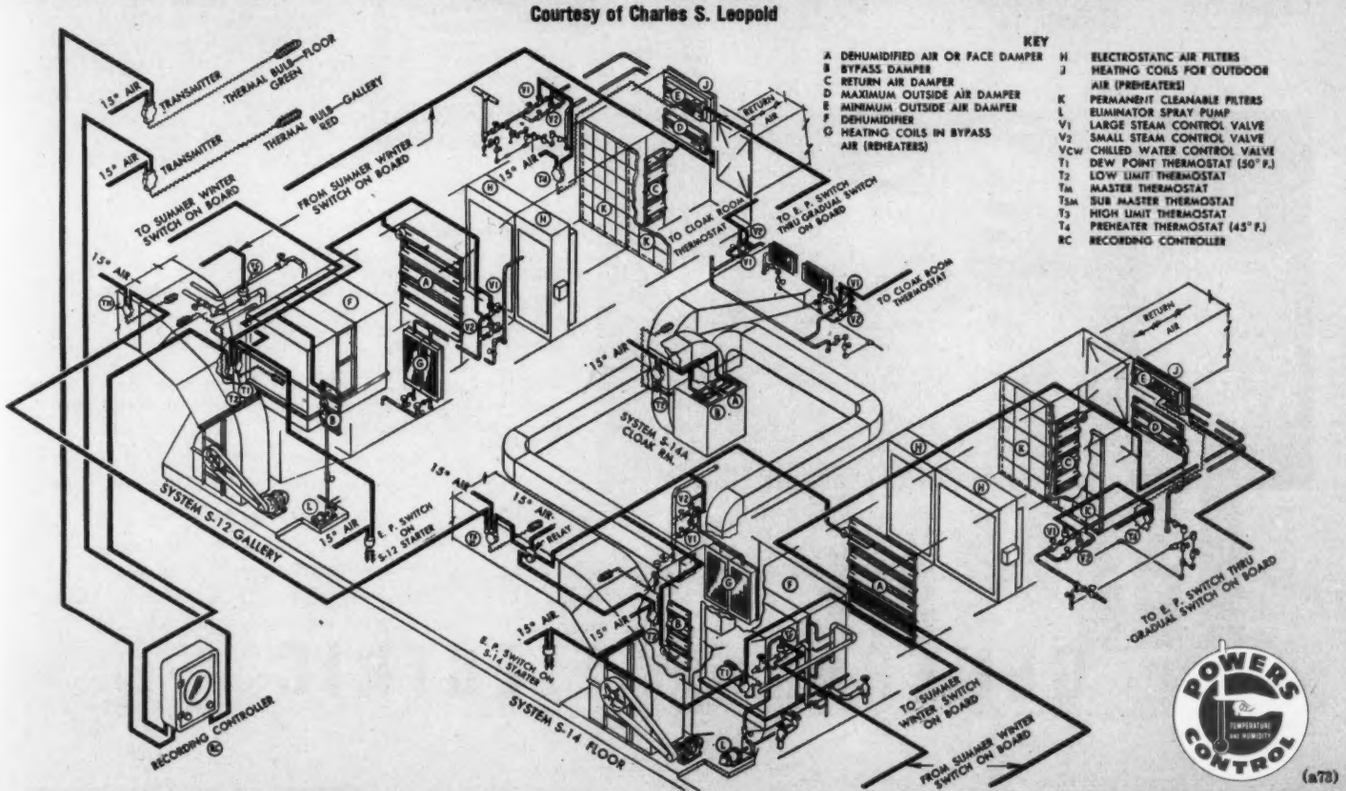




Powers Remote Bulb Thermostats for Dew Point, Low and High Limit, Preheater, Master and Sub-Master Control
—only a few of the many controls used in the Capitol.

AIR CONDITIONING APPARATUS DIAGRAM FOR OPERATION AND MAINTENANCE OF SYSTEMS IN THE HOUSE AND SENATE CHAMBERS

Courtesy of Charles S. Leopold



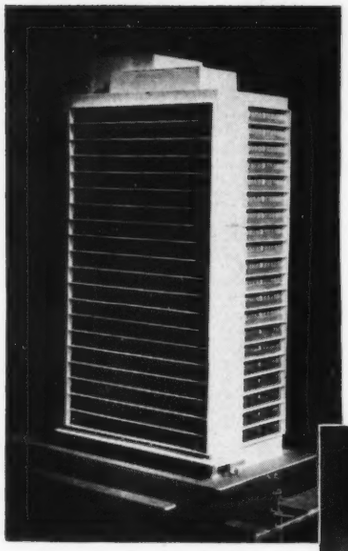
(a73)

How Houston gears for electrical growth with G-E Q-FLOOR WIRING

As the skyline of Houston, Texas, grows, the requirements for expanded electric service *within individual buildings* grow. These four buildings, with G-E Q-Floor wiring, are prepared for the future—whenever the rearrangement of office or store equipment demands additional electrical service.

The steel cells of Q-Floors provide the ultimate capacity for the wires of power, signal, and telephone circuits. Outlets can be installed at any time to provide electrical facilities where needed over the entire floor area. And the provision for electrical expansion will outlast the building itself.

To provide for tomorrow's changing needs of electrical growth, specify G-E Q-Floor wiring. Write for the complete story — a copy of the G-E *Q-Floor Wiring Data Manual*. Section C4-25, Construction Materials Division, Bridgeport 2, Connecticut.



←Melrose Building

Architect: Lloyd & Morgan
Gen. Contr.: Tellepsen Constr. Co.
Consulting Engr.: Herman Blum
Elec. Contr.: Hirsh Elec. Co.
Owner: Melvin A. Silverman and Bennett Rose

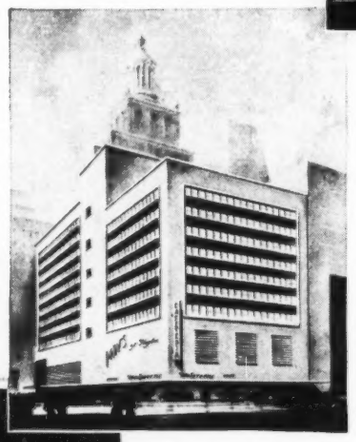
This new Q-Floor building will always be ready for unforeseen changes in floor arrangements . . . changes that demand new electric outlets.



Bank of Commerce Building→

Architect: Alfred C. Finn, F.A.I.A.
Gen. Contr.: Manhattan Constr. Co. of Texas
Elec. Engr.: Reg. F. Taylor
Elec. Contr.: The Howard P. Foley Co.
Owner: The National Bank of Commerce of Houston

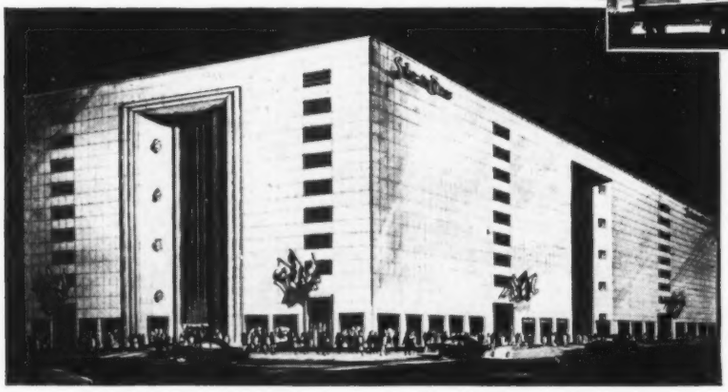
With G-E Q-Floor wiring, electric outlets can be added or relocated quickly — without disturbing this building's tenants.



San Jacinto Building

Architect: Kenneth Franzheim, F.A.I.A.
Gen. Contr.: W. S. Bellows Const. Corp.
Struct. Engr.: Ward Butterwick
Elec. Engr.: Reg. F. Taylor
Elec. Contr.: J. S. Copeland Elec. Co
Owner: Brown-Bellows-Smith, Inc.

Dead load was reduced in the rebuilding of the San Jacinto Hotel into a modern office building. After stripping the building to its original steel frame, the heavy, arched concrete floors were replaced with Q-Floors (steel floor and raceway combined).



Sakowitz Building

Architect: Alfred C. Finn, F.A.I.A.
Interior Architect: Brochsteins Inc.
Gen. Contr.: Tellepsen Constr. Co.
Elec. Engr.: Reg. F. Taylor
Elec. Contr.: J. S. Copeland Electric Co.
Owner: Sakowitz Bros.

G-E Q-Floor wiring gives this department store complete electrical coverage for display window, show case, and office lighting.

You can put your confidence in—

GENERAL ELECTRIC

LESS BUILDING, MORE CONTROLS; HOME BUILDING IS HIT

Ernest Mickel Reports from Washington on Tight Second Quarter Allotments, Housing Slash, Wilson Summary, Meetings to Watch

SECOND QUARTER ALLOTMENTS of critical materials were expected by government planners to support construction of all types in the second quarter at the rate of about $6.5 billion, as compared (with price adjustment) with a level of $7.6 billion in the second quarter of 1951 and $6.7 billion in second quarter 1950.

Chief Mobilizer Charles Wilson's fourth quarterly report to the President crystallized the recent indications that officialdom had ceased to think of any easing of restrictions before 1953.

Manly Fleischmann, testifying before the Congressional Joint Committee on Defense Production, said the year 1952 "will unquestionably be the most difficult which we face."

DPA Administrator Fleischmann announced that allotment of critical materials to manufacturers for housebuilding in the second quarter would be cut to 60 per cent of the 1951 level.



Henry Fowler, now NPA Administrator

A few weeks later, government housing officials were saying that 800,000 units can be started in 1952 "if strict conservation of scarce metals is practiced." A limitation on the *size* of houses was being studied, but no ceiling on starts.

CMP Regulation 6 probably will be amended this month. The National Production Authority alerted its Construction Industry Advisory Committee for an early February meeting at which proposed changes are expected to be presented. NPA said all construction regulations will be redrafted into "one package." No drastic changes were expected.

Two possible changes of special interest to architects: (1) allotments on a project rather than a quarterly basis; (2) permits without allotments — to make planning feasible with assurance materials would be forthcoming later.

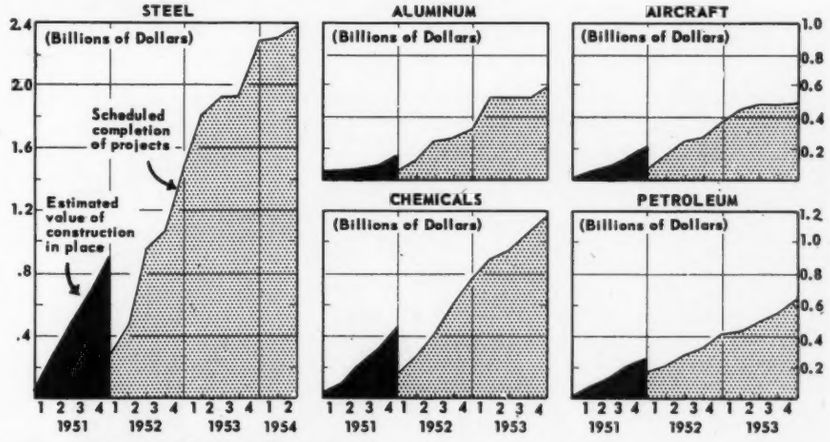
Another meeting on controls — this one sponsored by the United States Chamber of Commerce — is scheduled for February 12 in Washington. Every segment of the building field will be represented.

HOME BUILDERS PROTEST: 650,000 STARTS TOO FEW

HOME BUILDERS, who were represented at a meeting of NPA's Construction

(*Continued on page 14*)

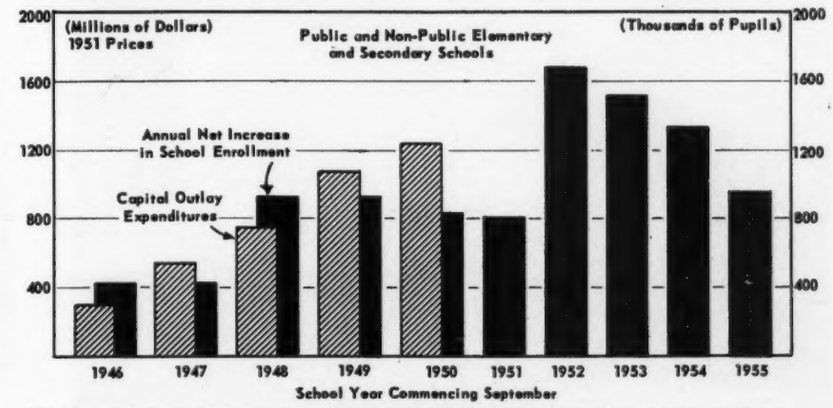
Construction of new industrial capacity over 40% toward completion; two-thirds of plants will be finished in 1952*



*Projects aided under defense mobilization program

These charts are from Wilson's fourth quarterly report. The school chart is a graphic illustration of why second quarter allotments were upped to provide for 500 new elementary and secondary school starts and continue 2400 projects under way

School construction needs reach peak as 1.7 million will be added to enrollment in September



Note: For each additional pupil enrolled, approximately $1000 must be spent for new school construction.

GROPIUS IN RETROSPECT: EXHIBIT OPENS IN BOSTON



Photo: John Brook

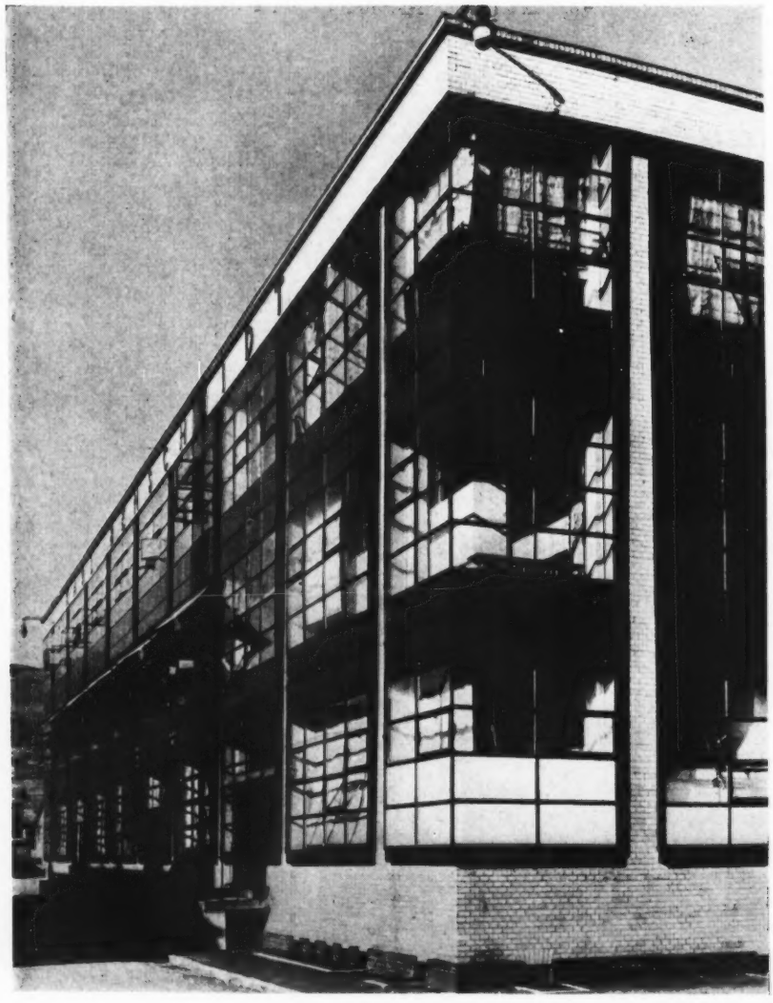
BOSTON'S INSTITUTE OF CONTEMPORARY Art last month opened its retrospective exhibition of the works of Walter Gropius, "designer, builder, philosopher and teacher" — and more specifically, founder of the Bauhaus, chairman of the Department of Architecture of Harvard's Graduate School of Design and one member of the team in The Architects' Collaborative.

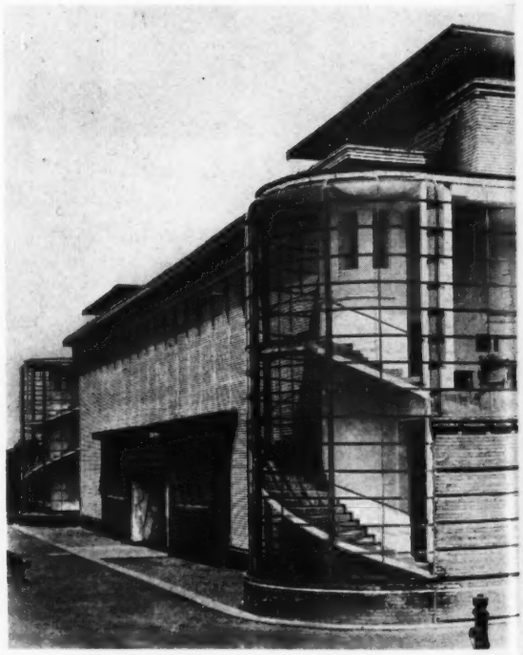
The exhibition had a special setting created by Designer Gyorgy Kepes, professor of visual education at the Massachusetts Institute of Technology, who also installed it. Professor Kepes masked the Institute galleries with a new wall, by means of which he "distorted the axis of one gallery in order to create a tension between that gallery and the next." Material, including plans, drawings, photographs and models, was presented chronologically against this backdrop.

The text accompanying the presentations, taken mostly from Gropius' own writings and speeches, should waken the echoes of many an old discussion and provide fuel for some of the current ones.

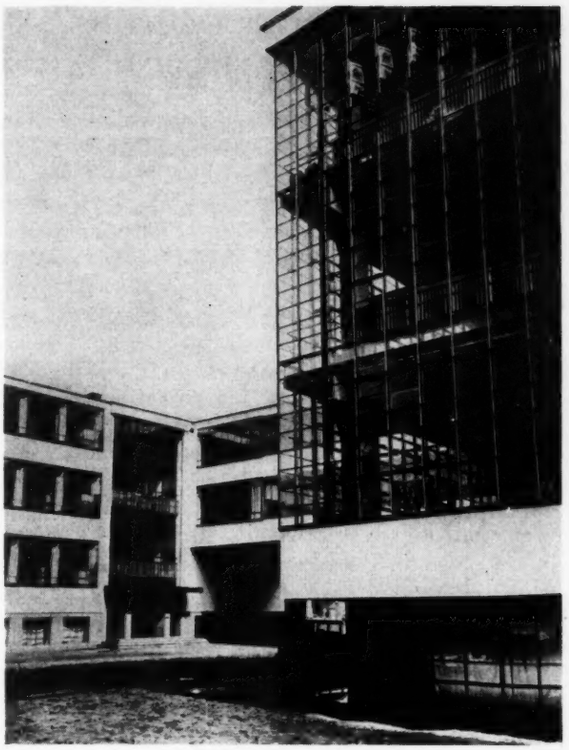
The exhibit, which presents 37 examples of Gropius' projects and works over a 40-year period, has a coast-to-coast itinerary ahead — a showing at M.I.T. when the Institute showing closes February 9; then Philadelphia, Colorado Springs, San Francisco, Cleveland, Chicago and other American cities.

Fagus Shoe Last Factory (1910-11)



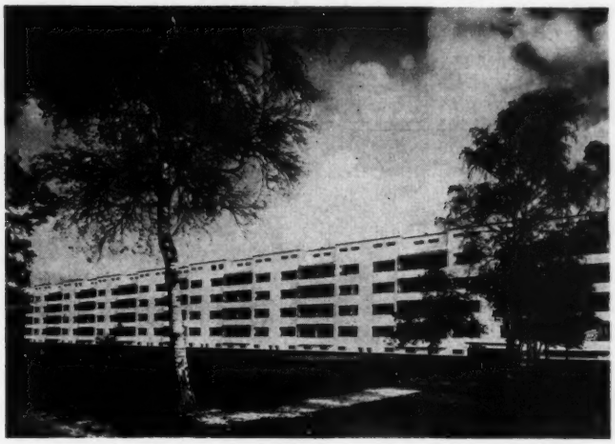


Office Building, Cologne "Werkbund" (1913-14)

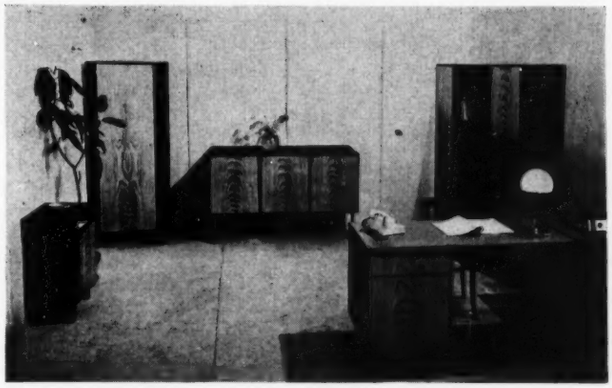


Bauhaus, Dessau (1925-26)

Photo: Courtesy of the Museum of Modern Art, New York

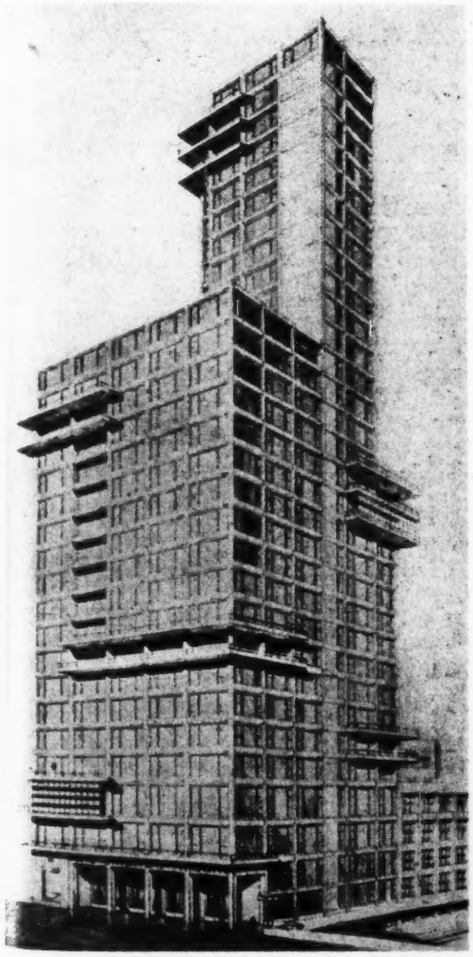


Siemenstadt Housing Development, Berlin (1929)



Low Cost Modular Furniture (1929)

Chicago Tribune Competition (1922)



Harvard University Graduate Center (1949)—with The Architects' Collaborative



HOME BUILDERS (*Cont. from page 11*)

Industry Advisory Committee the day the DPA announcement was made, were quick to protest. They told the authorities the new rate would provide far too few homes to keep up with demand.

The further cut was necessary, according to Mr. Fleischmann, "to conserve materials directly used in such construction as well as materials necessary for building materials and building products, including utilities."

His statement to Congress pointed out that the requirements for residential construction go far beyond those necessary for construction only, extending to refrigerators, stoves, water heaters, washing machines and other products.

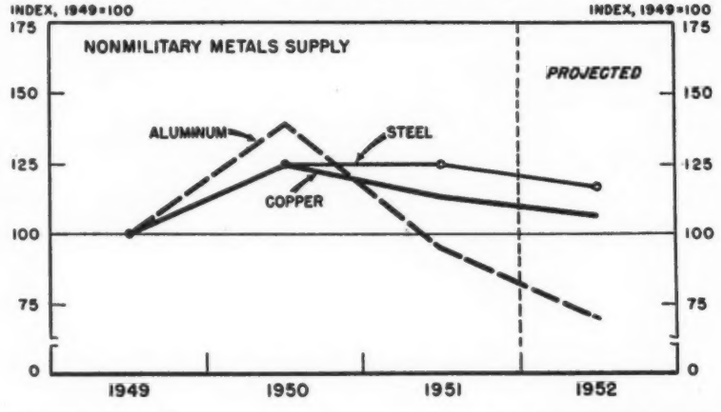
NPA and HHFA Divide the Job

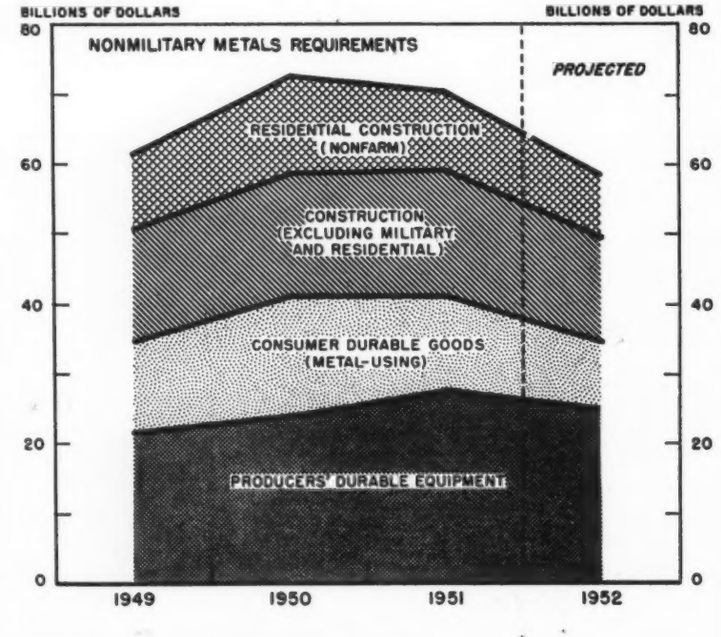
Meanwhile, jurisdictional lines had been pretty well drawn at administrative levels. NPA Chief Fowler (formerly Mr. Fleischmann's deputy) indicated, clearly enough, that his agency would concern itself primarily with the Controlled Materials Plan operation, leaving to the Housing and Home Finance Agency setting of any unit ceilings.

HHFA will also have the responsibility, a continuing one, of spreading the allotted materials as far as possible among the various types of housing.

METALS SUPPLY AND REQUIREMENTS
FOR CIVILIAN USE

In 1952, there will be moderately less steel and substantially less aluminum and copper available for civilian use. This will impose curtailments in nonmilitary construction, producers' durable equipment, and metal-using consumer goods.





SOURCES: DEFENSE PRODUCTION ADMINISTRATION AND COUNCIL OF ECONOMIC ADVISERS.

OUTLINE PROSPECTS ON OTHER BUILDING TYPES

ARCHITECTS had an even keener interest in the effects of second-quarter decisions on the heavier types of construction. A resume given Congress by Fleischmann included the following points:

Schools — In the case of elementary school construction, the allotments are considered sufficient to support all school projects under way (about 2400) and to begin construction of about 500 new buildings. For higher education, materials are granted to projects under way (241) and to start 19 urgently needed projects, like medical schools and research laboratories.

Hospitals — Materials allotted will support continuance of projects under way, plus some new critically needed projects.

Industrial expansion — Expanding military requirements forced curtailment of allotments here; few new starts are possible in the second quarter.

Commercial building — Virtually nothing but defense-related construction can go forward in this field.

Fleischmann Keynote: Balance

One brief sentence in the Fleischmann statement to Congress keynoted the tight materials situation. It was this: Balance in the economy necessitates a slowing down of construction.

The DPA chief noted that following Congressional authorization of the $6 billion military construction program, military authorities quite naturally rushed in to get the job done at the earliest possible moment. But they soon discovered that such speed was useless, since the materials budget would not lend itself to a quick consummation of the work authorized. Thus, much of the construction originally planned with an eye to speedy accomplishment is being phased out with later completion dates.

In fact, the same process has occurred with the industrial expansion program.

WILSON REPORT SUMS UP: NO RELIEF BEFORE 1953

THE BATTLE FOR PRODUCTION," fourth quarterly report to the President of Chief Mobilizer Charles Wilson, made it clear that the "pinch" on construction from scarcity of vital materials will continue into 1953.

Requirements of the military and atomic energy programs can be expected

(*Continued on page 378*)

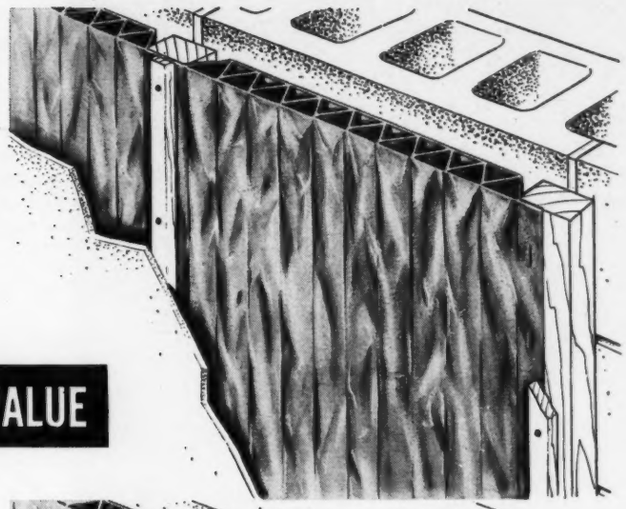
How to

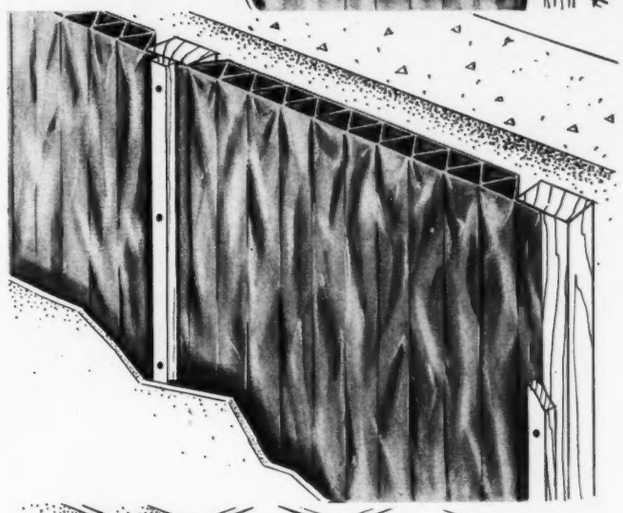
INSULATE MASONRY WALLS

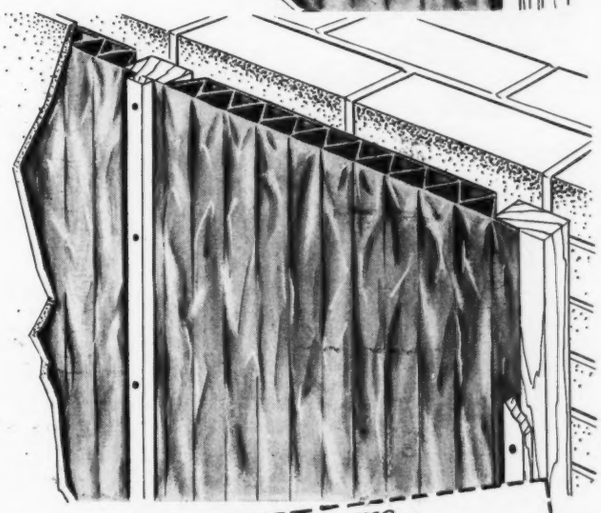
CREATE 1" WALL SPACE

GET 2" to 3" DRY INSULATION VALUE

At 12¢ a Square Foot*







Convert to active use—for playrooms, storage, laundries, workshops, even living-quarters—basements and other areas which have walls of brick, stone, cinder or cement blocks, or poured concrete.

Create comfortable *insulated* areas in factories, warehouses, piers, terminals, garages, etc.

This requires solving the twin problems of insulating against DAMPNESS and HEAT LOSS.

The solution: Install TWO or THREE aluminum sheets, spaced to create FOUR reflective air spaces. They are vapor-proof with ZERO permeability; non-condensation-forming; and waterproof.

The air spaces practically eliminate heat flow by CONDUCTION. The aluminum surfaces throw back 95% to 97% of heat RADIATION, and block heat flow by CONVECTION.

Pre-fabricated with tough, accordion aluminum sheets, and ONLY ONE-HALF INCH DEEP, this is commercially known as Type 4 Jr. Infra insulation.

INSTALLATION TECHNIQUE

On 16" centers, attach 1" furring strips to walls. Tack flange of Type 4 Jr. to FACE of furring with staples, flat surface facing room. Nail rough lattice strips over flanges. This prevents contact with wall and creates additional air space. Finally attach wallboard or lath for plaster.

*Cost of furring, lattice strips and Infra installed, 12¢ sq. ft.

TYPE 4 Jr. THERMAL FACTORS, IN 1" SPACE

Wall-Heat C.150, R 6.66 = 2¾" dry rockwool
Down-Heat C.097, R 10.30 = 4⅛" dry rockwool
Up-Heat C.194, R 5.15 = 2⅝" dry rockwool

INFRA INSULATION, INC.

525 Broadway, New York, N. Y. — WORTH 4-2241

Write for technique of installing Infra Type 4 Jr. under floors.

INFRA INSULATION, INC.
525 B'way, New York, N. Y. Dept. R-2
Please send Techniques for Installing Infra Type 4 Jr.

Name_____

Firm_____

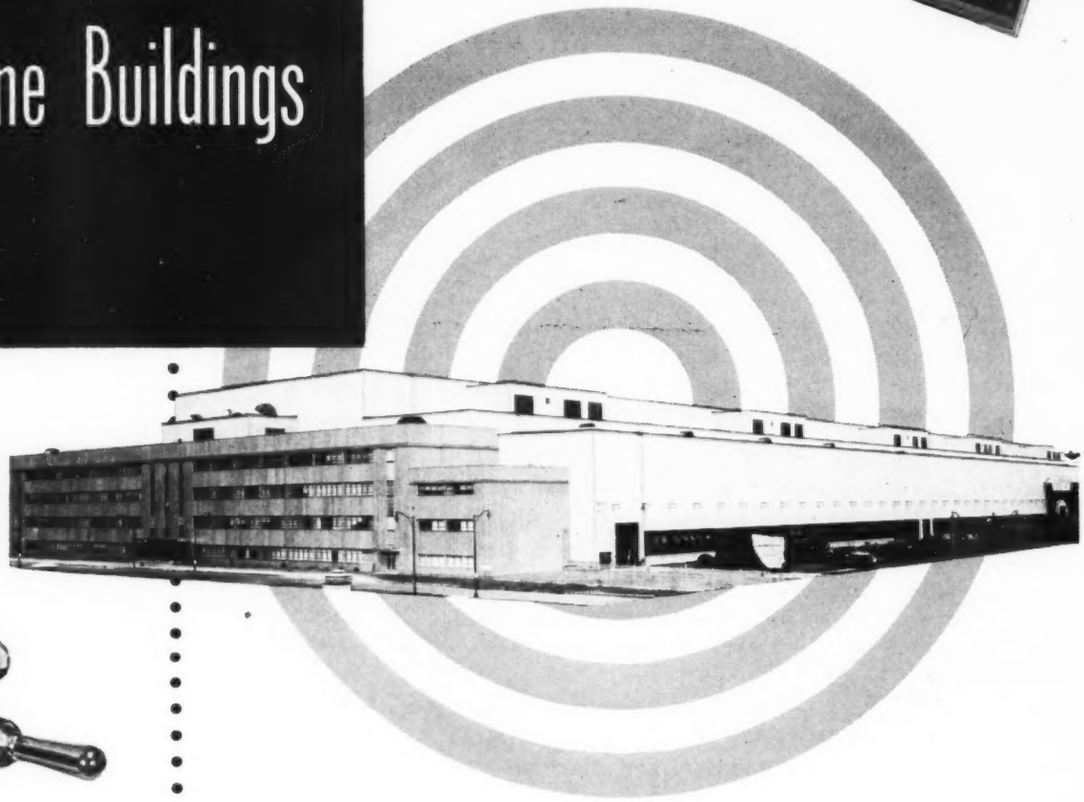
Address_____

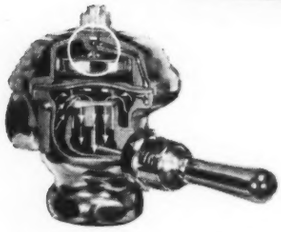
☐ Send prices of Infra Insulations
☐ Send Sample

Fine Flush Valves for Fine Buildings

For complete information on Watrous Flush Valves write for Catalog No. 449-A.







Among Watrous Fine Features

Self-Cleansing By-Pass . . .

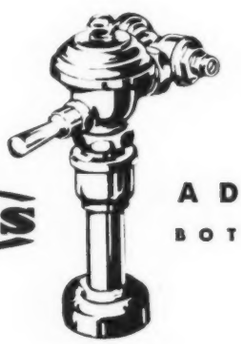
It's the by-pass that governs the length of flush. Watrous design includes a special mechanical device which results in cleansing of by-pass during each flush — a safeguard against prolonged flushing due to dirt or sediment in water.

GENERAL ELECTRIC TURBINE PLANT

Schenectady, N. Y., one of the many fine buildings in which Watrous Flush Valves are installed.

STONE & WEBSTER
Architect & Mechanical Engineer

A. J. ECKERT CO.
Plumbing Contractor



Watrous

ADJUSTABLE FLUSH VALVES
BOTH DIAPHRAGM AND PISTON TYPES

THE IMPERIAL BRASS MANUFACTURING COMPANY
1240 W. Harrison Street, Chicago 7, Illinois

SURVEY REVEALS VARIETY IN ARCHITECTS' PRACTICE

Dodge Statistics Provide Data for Study of Design Activity

ARCHITECTURAL RECORD has recently completed a study which throws more light on a subject of great natural interest to architects — the practice of architecture.

The conclusions are not surprising, but they have fresh authority because they are based on actual statistics on 12 months of practice by 490 architectural firms — 10 from each of the 48 states and the District of Columbia — chosen, to provide a fair sampling, on an arbitrary alphabetical basis, from the Construction Activity Record file of F. W. Dodge Corporation. All selections were made among firms whose projects totaled $100,000 or more during the period of the survey, the year ending August 31, 1951.

More architects (300 of the 490, or 61.2%) design *both* houses and other types of buildings than design either *houses only* (43 of 490, or 8.8%) or *non-residential and other heavy building only* (147 of 490, or 30%).

The "Average" Firm

The hypothetical "average" firm on the basis of the RECORD survey designed 28 buildings during the 12-month period, and had a dollar volume of $1,781,000. The same hypothetical firm designed three different types of buildings; and the study notes that the average practice would appear even more varied over a longer period.

What They Designed

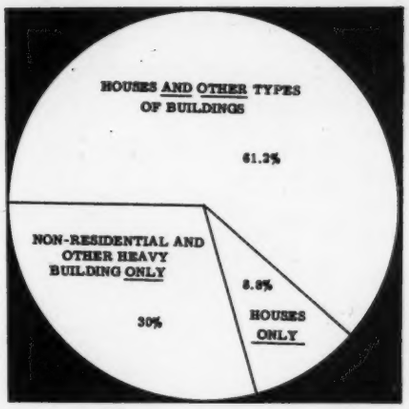
The 490 architects designed 11,563 houses with a total dollar volume of $143,299,000 and a mythical "average" cost of $12,393.

Their total dollar volume of $872,813,000 also included 794 schools ($186,553,000) designed by 326 of them; 306 stores ($43,869,000) designed by 132 of them; 289 religious buildings ($32,186,000) designed by 129 of them; and 264 "miscellaneous nonresidential buildings" ($162,505,000) designed by 264 of them. The latter group includes railroad, bus, air terminal buildings; aircraft hangars; greenhouses; refreshment and road stands; animal hospitals, havens, pounds; private garages; boat houses; boiler houses when built as separate projects.

Other building types included in their practices: 167 offices ($36,515,000) — 112 architects; 135 manufacturing buildings ($69,737,000) — 79 architects; 104 hospitals ($74,291,000) — 58 architects; 74 public buildings ($21,131,000) — 53 architects; 67 warehouses ($33,760,000) — 45 architects; 48 hotels or dormitories ($31,987,000) — 31 architects; 33 recreational buildings ($9,838,000) — 22 architects; 31 garages ($6,106,000) — 20 architects; 21 apartments ($10,278,000) — 15 architects; and 19 service stations ($317,000) — 12 architects.

What Non-Specializers Design

The table below is an analysis of work done by firms which did not specialize. *X* is used to denote non-specializing architects.



Percentage of architectural firms designing various types of buildings

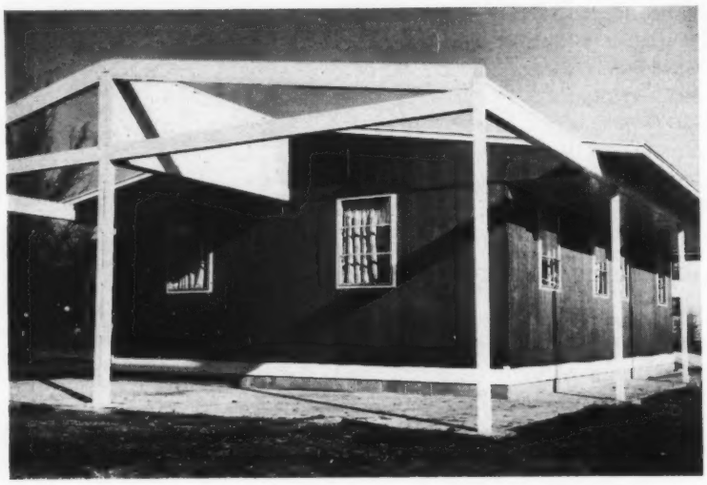
Kind of Project	Non-Specialists X	% of X to Total (490)	No. Projects X Designed	$ Volume of Projects	% Done by X of Total $ Volume *
Houses	300	61.2	6938	$112,780,000	79
Schools	293	59.3	717	167,533,000	90
Stores	131	26.7	304	43,211,000	98.5
Religious Buildings	125	25.5	271	30,382,000	94.4
Misc. Non-Residential	111	22.6	255	134,475,000	83
Offices	109	22.2	163	27,970,000	77
Mfg. Bldgs.	74	15.1	127	159,112,000	85
Hospitals	56	11.4	101	73,771,000	99.3
Public Bldgs.	52	10.6	73	21,011,000	99.4
Warehouses	44	9.0	66	33,558,000	99.4
Hotels-Dormitories	29	5.9	46	21,334,000	67
Recreational Bldgs.	21	4.3	31	8,888,000	90
Garages	19	3.9	30	5,956,000	98
Public Works-Utilities	17	3.5	26	9,166,000	88
Apartments	13	2.7	17	9,098,000	89
Service Stations	12	2.5	19	317,000	100
			9184	$758,562,000	87.0%

** $872,813,000 total activity of 490 firms studied*

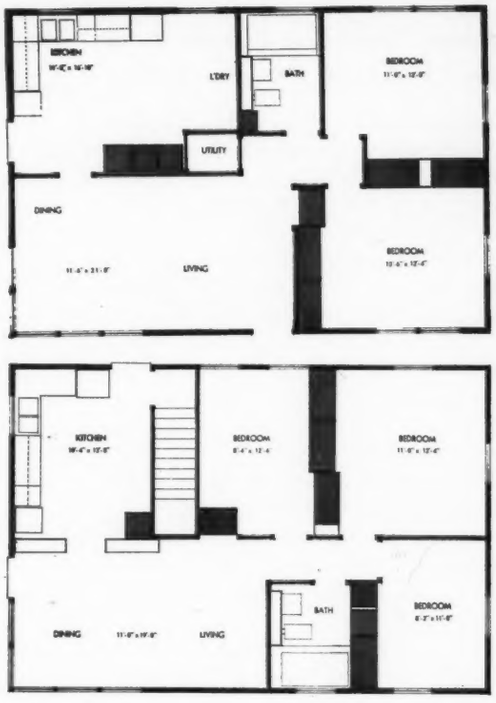


—Drawn for the RECORD by Alan Dunn

RESIDENTIAL SPACE USE TESTED IN EXPANDABLE HOUSE AT ILLINOIS



Test house for space research project of Small Homes Council, University of Illinois, is now (above) 24 ft by 36 ft, can be made larger (up to 32 by 48) or smaller by merely changing position of outside walls and adding floor panels. Roof, with ceiling attached, is supported by 10 columns, has plywood box girder for ridge





Photos: Public Information Office, University of Illinois

Two families living in house for successive six-month periods will test "liveability" of different arrangements (two variations are shown above). Interior partitions of laminated fibreboard, 1½ in. thick, 4 by 8 ft sheets, have tongue and groove joints on both sides; some are formed by movable closet units 4 ft by 2 ft. For moving, kitchen and bathroom have flexible tubing and piping in plumbing connections; bathtub is on rollers, other fixtures on movable wall panels. Designer: Prof. Rudard A. Jones, in consultation with Prof. James T. Lendrum and Prof. William H. Kapple

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ARCHITECTS LEAD SEARCH FOR COPPER SUBSTITUTES

THE AMERICAN INSTITUTE OF ARCHITECTS is well on the way toward publication of a series of technical reference guides on the use of aluminum as a substitute for copper.

The first of the series, planned for the Institute's March *Bulletin*, will deal with substitutions in the electrical field. Tentative plans call for succeeding pieces on weather protection construction (flashing, gutter, etc.), building hardware, plumbers' brass, and other subjects.

The A.I.A. has been in touch with the principal aluminum producers, compiling their literature on aluminum uses in fields traditionally reserved for copper.

While the Institute takes the initiative in promoting this drive from the organizational standpoint, other segments of the industry are involved. The Institute is consulting with the National Electrical Contractors Association, for example.

Specifications Come First

As the A.I.A. approaches this transition in metal uses, it conceives the first-line struggle to be in the minds of the men who write the specifications. Then, step by step, and through a process of education, the resistance to adapting aluminum where copper served before must be removed from the minds of builders and finally the artisans who make the installations.

Government Supports Project

The federal government is supporting the A.I.A. plans. They were developed to their present detail following a meeting with Ralph Trigg of Defense Production Administration, and have DPA's blessing. Furthermore, the Office of Defense Mobilization is encouraging a shift from copper to aluminum.

Long-Range Planning

It is recognized in all quarters that there will be no plentiful supply of aluminum this year. It's going to be sometime in 1953 — perhaps beyond that — but the aluminum supply in adequate amount is coming: it is sure; but copper will remain short for years.





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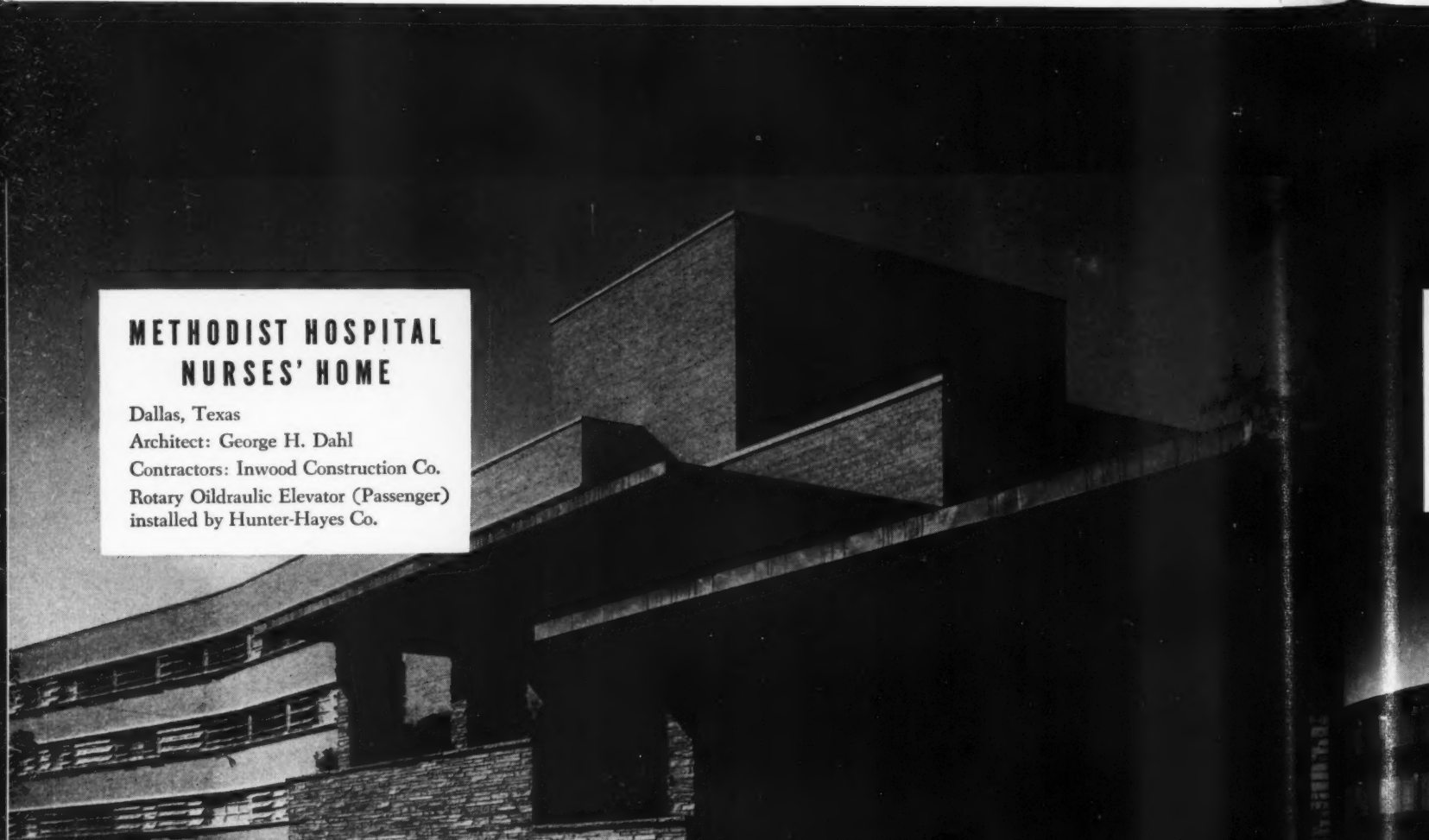
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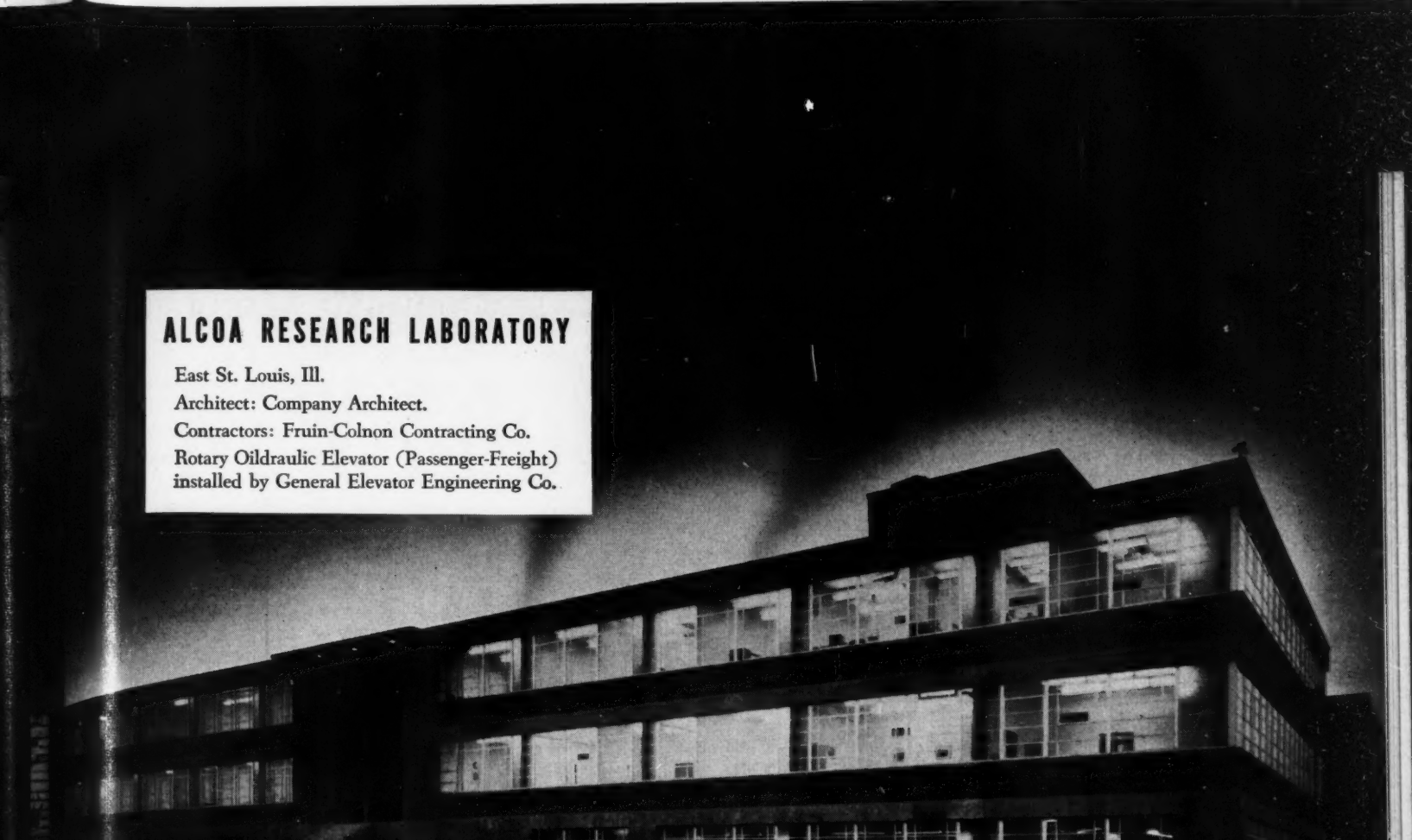
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METHODIST HOSPITAL NURSES' HOME

Dallas, Texas
Architect: George H. Dahl
Contractors: Inwood Construction Co.
Rotary Oildraulic Elevator (Passenger) installed by Hunter-Hayes Co.

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East St. Louis, Ill.
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Doors left open for photograph to show platform and jack

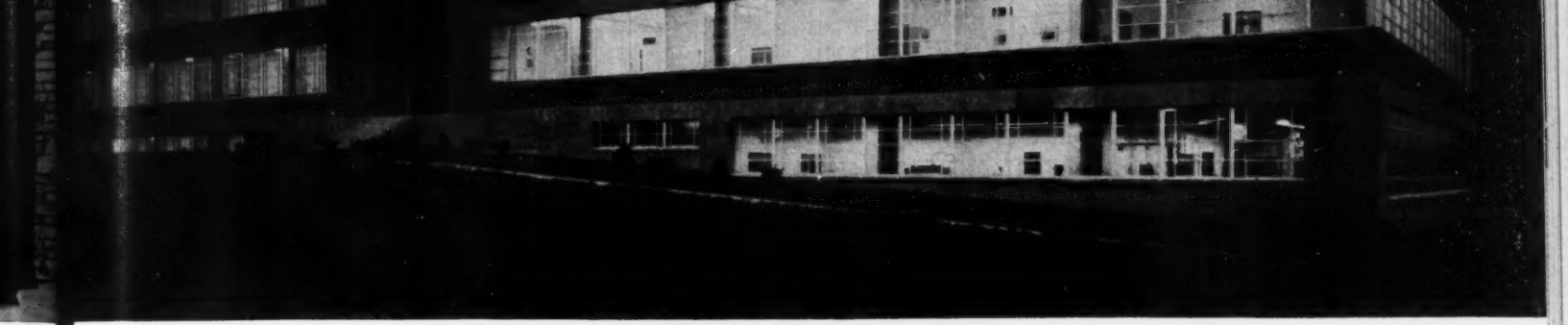




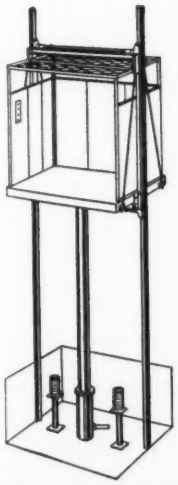
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M.I.T. CONFERENCE SHOWS NEED FOR LONG-TERM HOUSING RESEARCH



Foster Gunnison, prefabrication advocate, analyzes housing proposals of students in the Bemis Foundation housing conference at Massachusetts Institute of Technology January 14. Other jurors (left to right): John W. Galbreath, Columbus, Ohio, realtor and developer of Fairless Hills, Pa., community; Howard T. Fisher, Chicago architect and building research consultant; Edward P. Brooks, dean of M.I.T.'s School of Industrial Management (moderator); Fritz Burns, California builder of large housing developments; and Alfred Levitt of Levitt & Sons, builders of Levittown, Long Island, and Levittown, Pa.

ALTHOUGH INDUSTRIALIZING OF HOUSING was the basic subject of M.I.T.'s January conference at Cambridge, a lively exchange of ideas led the discussion all the way from Buckminster Fuller's geodesic dome to the life history of Alfred Levitt.

M.I.T.'s School of Architecture and the Albert Farwell Bemis Foundation were joint sponsors of the one-day session. Dean Pietro Belluschi, in his introductory remarks, pointed out the importance of a "continuing endeavor to stimulate and encourage the study of industrializing production of housing."

What made the meeting lively was the panel of outspoken builders and prefabricators who acted as judges and critics of four community projects developed by M.I.T. graduate students.

Following the appraisal of the student projects, the judges themselves spoke and were then subjected to sharp questioning and comment from the floor.

Dean Brooks of M.I.T.'s School of Industrial Management was moderator.

The panel members — who judged and were judged — were William Levitt, Long Island builder; Fritz Burns, Los Angeles builder; Foster Gunnison, prefabricator; John W. Galbreath, realtor; and Howard Fisher, architect.

Buckminster Fuller's geodesic dome, shelter design form used by a team of M.I.T. students in planning a theoretical house development on a 275-acre Massachusetts site. The plans were presented for panel discussion at the Jan. 14 housing conference



Basis of all the discussion was a 275-acre site in Wayland, Mass., which each of the four teams of students had developed as a project from land purchase to final sale of houses. Each project employed a different type of house: a Gunnison prefab, the Acorn packaged house; a site-fabricated panel unit — and Fuller's geodesic dome structure.

The students indicated they had had considerable difficulty attempting to fit standardized units to the rolling terrain of the site.

Detailed criticism of the projects soon led to a broad discussion of mass housing methods objectives and most important — research.

Among the students, keenest interest was shown in Fuller's geodesic dome and 1970X prototype. Fuller's house was described by graduate student John Rauma as an approach to better living "like the design for the first airplane."

Sharp differences of opinion were shown in the comments on design, planning techniques, building costs.

Director Burnham Kelly of Bemis Foundation summed up by saying "we need some way to get more of our people into these building organizations — to bring about greater exchange of information between them and the schools. *Management* is the key to the mass building operation problem."

What They Said

Some of the remarks and comments:

Levitt — "The shell is really unimportant. More than one half of our man hours are in ground work. You can't prefabricate streets, earth-moving — or a community."

Galbreath — "Too much land is a burden — people don't want such big lots."

Gunnison — "Distribution is the major problem. Anyone can make a house — the problem is to sell it."

Fuller — "It's not what people *think* they want but what we *know* they need."

Koch — "Would integration of housing be aided by having municipalities do planning and developing of land?"

Fisher — "We should not accept FHA regulations or codes without questioning. Students must know about them — then try to change them."

Burns — "There is a constant improvement in design and land planning — people are becoming more house conscious."

Belluschi — "Cannot builders develop more research — perhaps try one project that might *lose* money."

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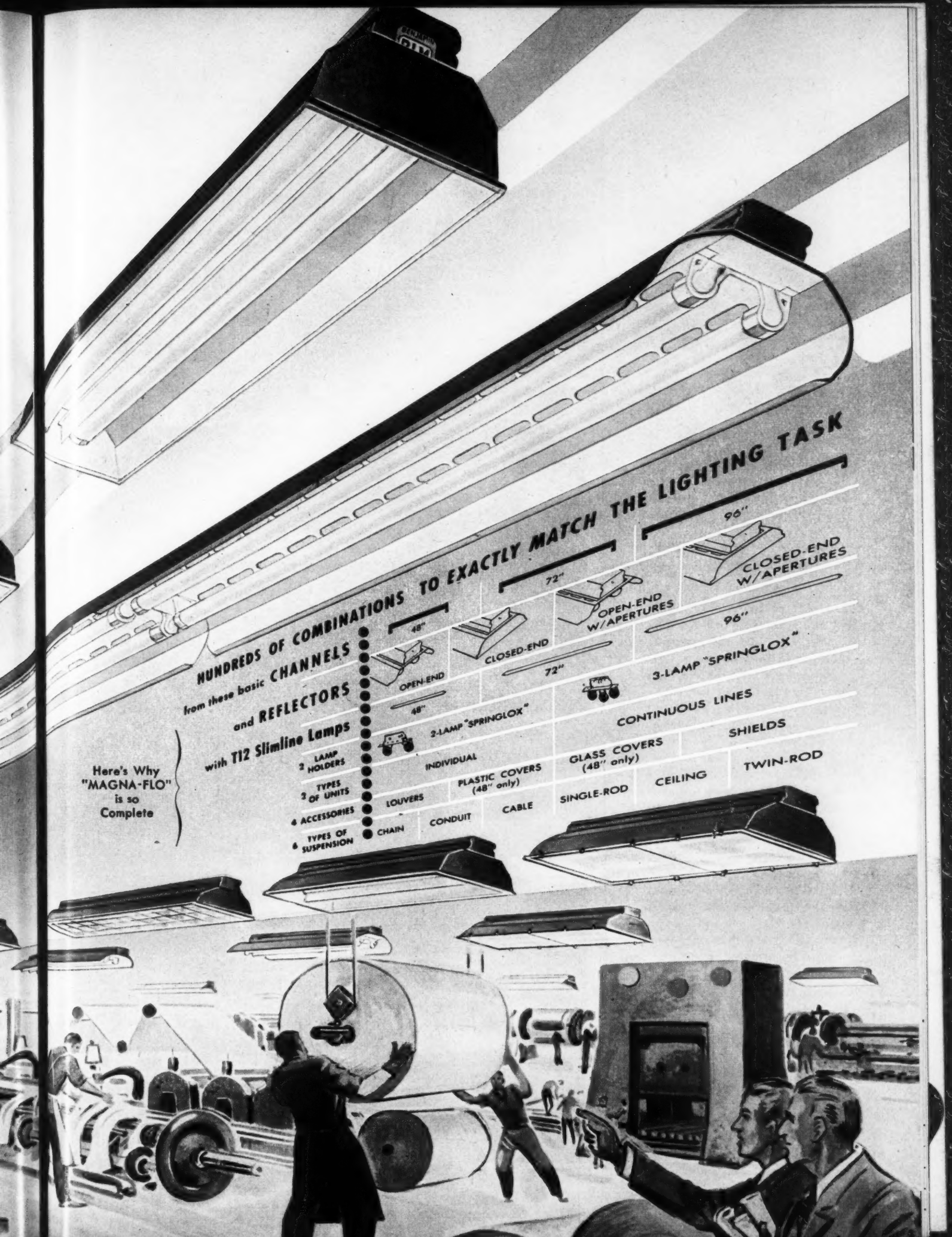
Task Matched Lighting Installations

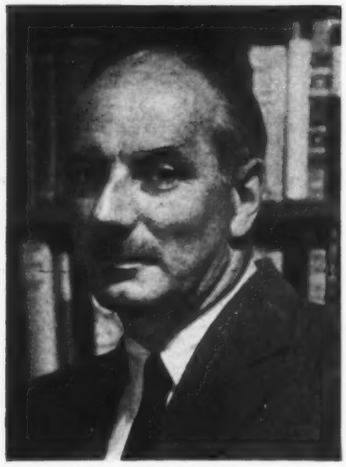
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Critic Lewis Mumford, who was unable to be in Chicago for the A.I.A. convention last May, finally was presented with his certificate of honorary membership in the American Institute of Architects at a meeting of the New York Chapter last month. No fair expecting him to blunt any arrows because he's "inside," he indicated!

FLW PLANS BLOCK HOUSE: ANY MAN CAN BUILD IT

THE MAN IN THE STREET, already an object of universal solicitude in this election year, has one promise from Frank Lloyd Wright.

New concrete blocks and rods designed by Mr. Wright will enable him within a year to build for $6000 a Usonian house that would otherwise have cost $12,000.

The "Usonian automatic" system was used on the Arizona Biltmore Hotel, but has since been restudied and simplified to make it "foolproof" for amateurs. Mr. Wright notes that the system will permit an individual builder-owner to lavish on his house the "appreciative understanding which hasn't entered into architecture; nobody has loved it enough to make it a thing of beauty."

The blocks and rods will be stocked all over the country, eventually, just like lumber; but forms will also be available for rental "at about $45" so the individual builder can make his own blocks if he wishes.

Pilot models of the houses will be built, probably this summer, in Phoenix, San Francisco and Milwaukee.

Mr. Wright announced the plans for the new venture last month in San Francisco at the supervisory office which he recently opened in that city with Aaron Green in charge.

NEWS FROM CANADA *by John Caulfield Smith*

Construction Level in 1952 Expected to Reach '51 Mark

CONSTRUCTION IN CANADA in 1952 is expected to reach the record level established in 1951. Declines in contracts awarded for some types of projects will be offset by gains for others.

Prospects are bright in engineering, even if the St. Lawrence Seaway doesn't get a green light. Industrial building, sparked by increased spending on defense construction, will continue to boom. Institutional volume should remain unchanged, with all but the most essential non-defense public works deferred. Possibility of a dip in commercial building, highway construction and housing is very evident. Supplies, with the exception of steel and steel products, should not be too great a problem, nor should labor. Efforts will be made to hold the firm price line, but costs will undoubtedly rise.

Major Record Seen for 1951

Final figures are not available at the time of writing, but there is reason to believe that 1951 contract awards will exceed those of 1950 — previously the

(*Continued on page 30*)



Photos above and below by Belair

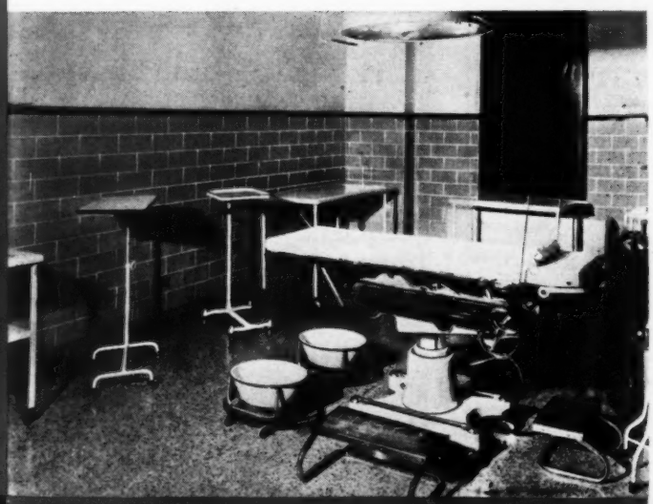
Kitchener, Ont., Memorial Auditorium has facilities for every kind of public entertainment from musical comedies to ice hockey. Exteriors are limestone for the front and brick and concrete block for sides and rear. Main roof is supported by 110-ft lateral trusses carried on 220-ft longitudinal trusses, the longest steel trusses ever erected in one piece in Canada. Architects were Jenkins and Wright





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PANEL DISCUSSION

FHA Accepts 3/8" Plywood Over Rafters 24" O. C.



On the basis of recent tests and experience data, Federal Housing Administration now accepts plywood 3/8"-thick as roof decking over rafters spaced 24" on centers, according to a letter from Curt Mack, assistant commissioner of the FHA underwriting office, to Douglas Fir Plywood Association. A revision of FHA Minimum Property Requirements is planned; meanwhile, FHA at Washington (Underwriting Office) will advise any insuring office upon inquiry that 3/8" plywood over rafters 24" on centers will be accepted. Plywood roof deck thicknesses now accepted by FHA are shown below in tabular form.

Roofing Material	Max. Rafter Spacing	Min. Plywood Thickness
Wood, Asphalt Shingles	16"	5/16"*
	24"	3/8"*
	24"	1/2"
Slate, Tile, Asbestos-Cement	16"	1/2"
	20"	1/2"
	24"	5/8"
Flat Roofs	16"	3/8"
	20"	1/2"
	24"	5/8"

*Under wood shingles: If plywood is less than 1/2" thick, apply 1" x 2" nailing strips.

A folder giving detailed information regarding use and acceptance of Douglas fir plywood in homes built under FHA financing may be had free of charge from Douglas Fir Plywood Association, Tacoma 2, Washington.

Concrete Intaglio



Plywood cut-outs, nailed to the plywood form face, were used to create these whimsical nursery figures on the exterior concrete wall of the kindergarten play yard at the Whitman School, Tacoma, Wash. Architect John G. Richards of Lea, Pearson and Richards developed the idea. Over 7' high, the figures were formed using 3/8" plywood cut-outs, secured to 5/8" form panels. On the soon-

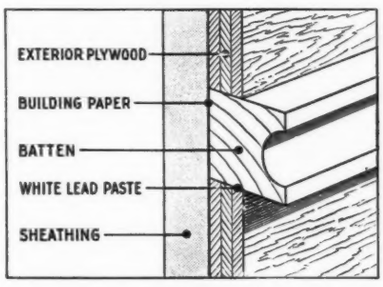
to-be-completed project, plywood forms are being re-used as roof decking. Contractors: Standard Construction Co., Tacoma, Washington.

Speeds Siding Application

Builder-Owner H. J. Cox reports application time and labor costs were reduced by one-third with Douglas fir plywood siding in building this Eugene, Oregon, home. "Not only did the plywood help hold costs down," Builder Cox reports,



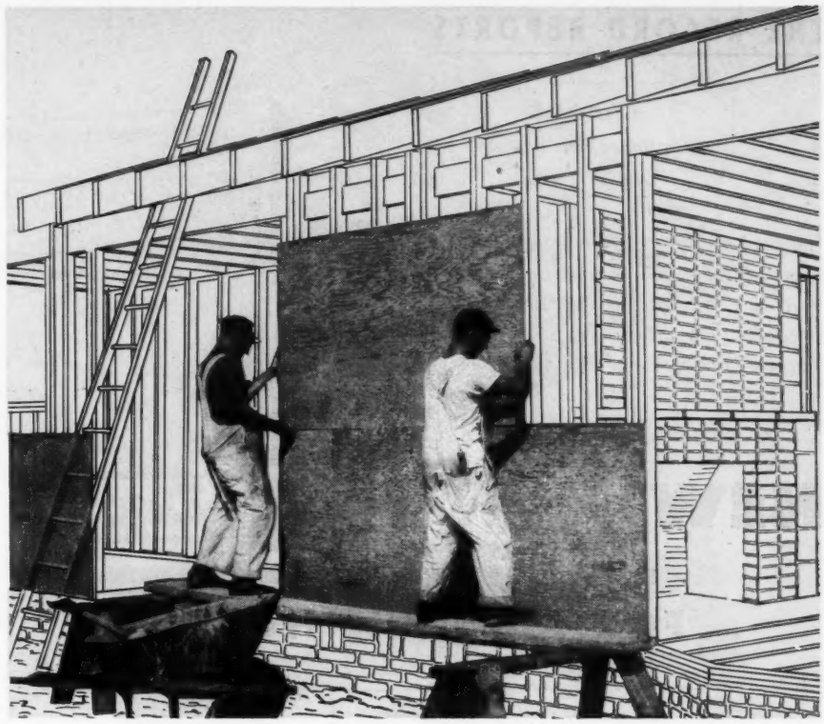
"but after over four years exposure to our rainy Northwest weather, the siding looks as good as the day it was finished." Architect Percy D. Bently specified the interesting batten detail shown. Exterior plywood panels were sawn to correspond with the bevel of the specially run molding and tightly fitted with a sealing of white lead paste. Corners were formed with 5/8" quarter rounds. The siding—4'x8' sheets, cut to 2'x8'—is painted beige, the molding tobacco brown.



Plywood Cottages Weather Hurricane

Dramatic proof of plywood's superior strength and rigidity was given last year when up-to-100 m.p.h. winds lashed the Jersey coast in one of the worst hurricanes to hit since 1938. Among the luckiest of those who took the full brunt of the screaming wind were owners of the 500 plywood cottages at Ocean Beach, N. J. All around the development, roofs were ripped away, church steeples toppled and conventional homes smashed beyond repair. According to A. C. Pearl, project sales manager, not one of the plywood houses suffered structural damage. "We attribute this to the outstanding bracing strength provided by plywood which was used as combined siding-sheathing."





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PlyScord, the sheathing grade plywood, offers many other advantages. It can be applied 25% faster, saving time and labor. PlyScord provides the perfect base for finish siding and roofing. It holds nails well . . . won't split, crumble or puncture. Big panels insulate, seal out drafts . . . make homes warm, snug, stable—now and five or fifteen years hence.

Douglas Fir
Plywood



AMERICA'S BUSIEST BUILDING MATERIAL

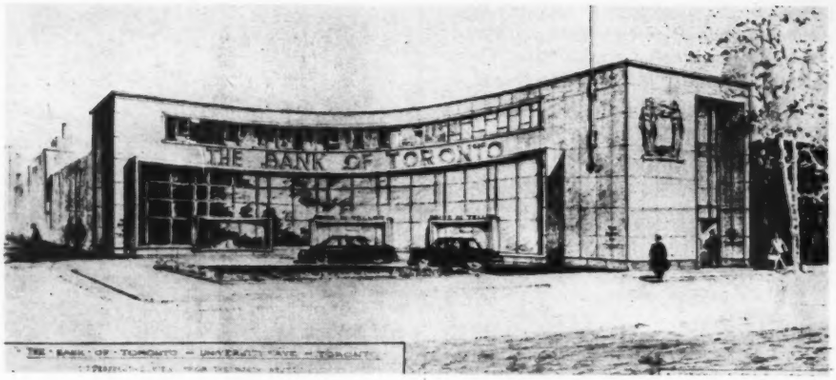


● PlyScord is the unsanded construction grade of interior-type plywood bonded with highly water resistant glues. For subflooring, sheathing, backing, one-use forms. PlyScord is a registered grade-trademark identifying quality plywood manufactured in accord with U. S. Commercial Standards and inspected by Douglas Fir Plywood Association (DFPA).

THE RECORD REPORTS

CANADA

(*Continued from page 26*)



The Bank of Toronto plans a new drive-in branch at University Avenue and Dundas Street in Toronto. Construction will be limestone with granite base. Architects: Blackwell and Craig of Toronto

NEW ANGEL Doors

FOR MODERN HOMES



48 Styles

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- Raised moldings around glass on both sides
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- Water resistant
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CONSTRUCTION LEVEL (*Continued*)

best year in Canadian building history — by 49 per cent. Estimates indicate that this year's awards will reach the unprecedented height of $2.3 billion, compared with $1.5 billion for last year.

The 1951 total is the icing that tops a cake which has been baking for the past five years. Construction in every year since 1946 has substantially exceeded the year preceding it. Steadily climbing costs are also apparent.

Here is how the volume and cost picture has been developing:

	Contract Award Total ($ million)	*Increase Over Previous Year (per cent)*
1946	663	62
1947	718	8
1948	954	33
1949	1140	20
1950	1526	34
1951 (Est'd)	2275	49

	Construction Cost Index (1935–39) — 100	*Increase Over Previous Year (per cent)*
1946	147.6	4
1947	165.4	12
1948	189.0	14
1949	197.8	5
1950	216.9	9
1951	241.0	12

(Source: MacLean Building Reports Ltd.)

Physical Volume Also Up

Despite the creeping inflation of the postwar period, the increase in physical volume of building has not lagged far behind the rise in dollar value.

"We face," says Robert Drummond, president of the Canadian Construction Association, "two major problems. We must keep up our record program of vital projects, despite the acute steel shortage, and at the same time see that

(*Continued on page 32*)



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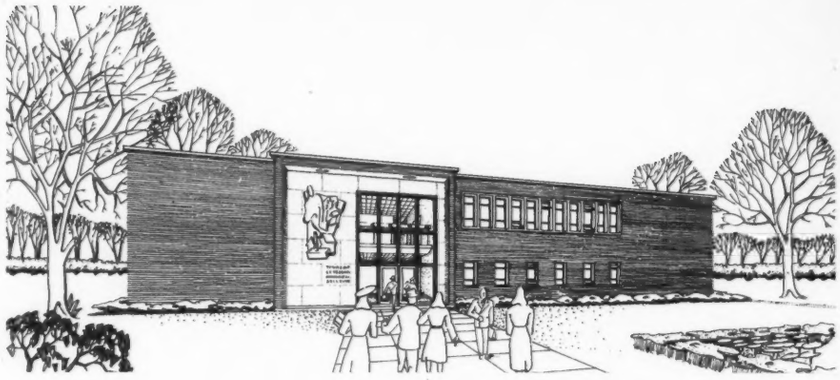
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THE RECORD REPORTS

CANADA

(*Continued from page 30*)



The new municipal office building for the township of Toronto focuses attention on the entrance, which has a sculpture beside a two-story window. Gordon S. Adamson of Toronto is the architect



Today, as never before, every business needs the protection of concrete vaults and fire-resistive doors. Not just one, as in the past, but in each department which has valuable records to protect.

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CONSTRUCTION LEVEL (*Continued*)

construction does not fall behind the discovery and development of our natural resources."

In so far as the steel situation is concerned, structural members, pipe and wire lath are hard to find for non-priority jobs. However, marked improvement is expected towards the end of 1952. Canadian steel producers are rapidly expanding their facilities. Within 12 to 15 months, our ingot capacity will be boosted by a million tons — more than we imported from U. S. in 1950. At the same time, output south of the border will be mounting and Canada stands a good chance of getting some of this increased production.

Brick, cement, and certain types of lumber may be tight during the height of the building season in various parts of Canada, but, generally speaking, shortages of the crippling nature encountered in 1946 are not anticipated. Cutbacks in the manufacture of asphalt shingles, gypsum lath, bathtubs, domestic boilers and warm air furnaces seem likely if housing starts decline seriously.

Defense Peak in 1952

Defense and armed services construction is calculated to reach its peak in 1952. This is assured by the large carry-over of building from 1951 and the program now being planned for the next fiscal year. By 1953, some tapering off is indicated, though of course every prospect would be changed if the international crisis worsened.

Even more important are the projects allied to defense. In 1951 they pushed the value of industrial contracts a whopping 200 per cent ahead of the previous year.

Capital investment in our basic industries is another factor contributing to large-scale construction activity. Pro-

(*Continued on page 34*)

EVERY HOME REGARDLESS OF PRICE CAN HAVE THE BENEFITS OF OAK FLOORING

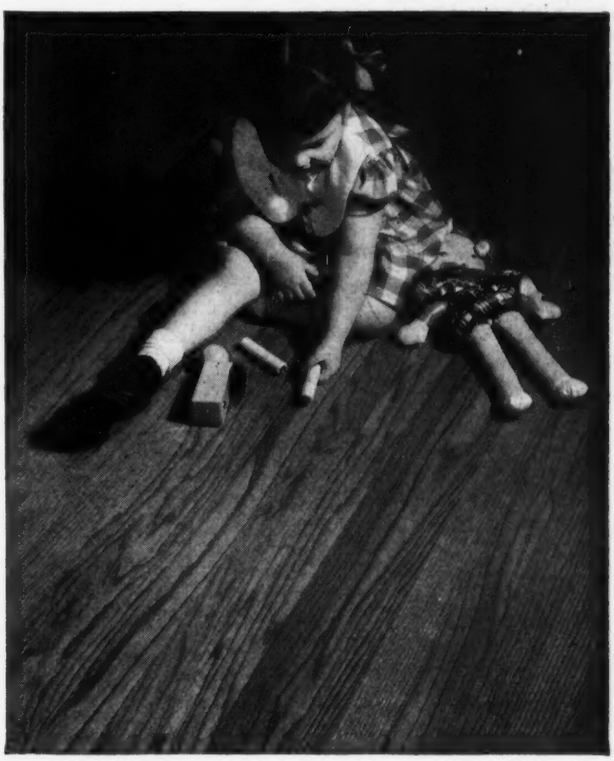
Only oak flooring provides the basic flooring needs—beauty, economy, adaptability and "healthfulness."



The cost of a home should have no bearing on such fundamentals as "healthfulness," durability, economy and beauty. Cost should affect only over-all size and finishing "frills."



For example, low-cost homes need not forego the benefits of oak—which 85% of all prospective homeowners want. Now, oak can be laid over concrete slabs, using screeds set in mastic.* To go with concrete slab construction are grades of oak flooring for even the lowest cost homes.



With oak laid over concrete, children can play right on the floor. The natural insulating qualities of oak, plus the cushion of air between the concrete slab and the oak flooring, makes the floor warmer in winter and cooler in summer, a strong plus-factor for use in selling homes.

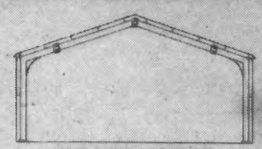
*SEND TO NATIONAL OAK FLOORING MFRS. ASSN., STERICK BLDG., MEMPHIS 3, TENN., FOR FREE FHA-APPROVED INSTRUCTIONS FOR LAYING OAK OVER CONCRETE.

How Empire Products, Inc. Solved Their Building Problem

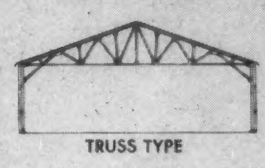
STEEL Craft
REG. U.S. PAT. OFF.



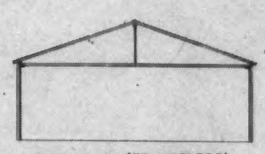
. . . With a Steelcraft Rigid Frame Building



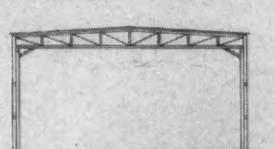
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TRUSS TYPE



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THE RECORD REPORTS

CANADA

(*Continued from page 32*)

jecting our sights to 1953 and the years beyond, it is obvious — barring all-out war — that even greater construction programs are likely in future. Canada's economy is a dynamic one. Its building industry is big, and will stay big. Resources development paves the way for establishment of secondary industries, new townsites, schools, hospitals, houses, roads and utilities. In addition, there is a growing backlog of projects postponed because of the steel shortage, restricted credit, and deferred depreciation.

Housing Ebb Indicated

Housing, which accounted in value for one third of all construction contracts awarded in 1950, shrank to one fifth of the total in 1951.

And the outlook, according to F. A. Mager, president of the National House Builders Association, is far from promising for 1952.

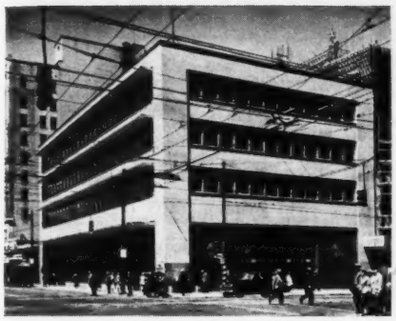
"Unlike other years," he points out, "we will not carry over into 1952 a large number of uncompleted dwellings. Combined with the federal government's policy of discouraging new house starts, it looks as if next year's production may drop as much as 25 per cent. In other words, we may build 55,000 or 60,000 units, compared with about 75,000 in 1951 and 90,000 in 1950."

No Lag in Demand

Slackening of demand will not, in Mr. Mager's opinion, be responsible for the cut in volume. Canada is prosperous and her population is increasing by leaps and bounds. With incomes at an all-time high, young people can afford to marry earlier, and to set up their own domestic establishments earlier. At the same time, because of the growth of savings and the introduction of old age pensions, older couples are able to maintain separate households longer. Thus, at both ends of the family cycle, there is greater demand for houses.

The anticipated drop in production is explained by what Mr. Mager terms "the unrealistic sales prices" set by Central Mortgage & Housing Corporation under recently altered landing regulations.

"Builders are no different from other business men. They cannot operate



The Dominion Bank has a new main office building in Vancouver, B. C. Exteriors are stone and granite. "Main" offices of banks in Canada are not headquarters but major units in branch system. Architects of this one are McCarter & Nairne of Vancouver

when a rigid price ceiling and a rising floor of costs squeeze out a fair profit."

The remedy, he suggests, is for material prices and wages rates to be controlled as well as builders' sales prices. Either that, or an escalator clause in builders' contracts to absorb rising costs.

Awards of Merit Planned for National Home Show in May

Awards of merit to architect-builder teams responsible for the best postwar residential subdivisions in Canada will be made at the National Home Show, to be held at the Horticultural Building, Exhibition Park, Toronto, May 23–31.

Manager Grant Smedmor announces that the Show will be both a trade and consumer exhibition embracing all branches of the residential building industry, including home furnishings and equipment. An advisory committee comprising representatives of the design, contracting and supply organizations has been set up.

First Awards Are Made in Defense Housing Program

Rex Heslop, Etobicoke, Ont., builder, is the first to participate in Canada's new defense housing scheme. He has been awarded 117 loan approvals for defense houses and 22 loan approvals for other houses in his new 153-acre Islington Avenue subdivision.

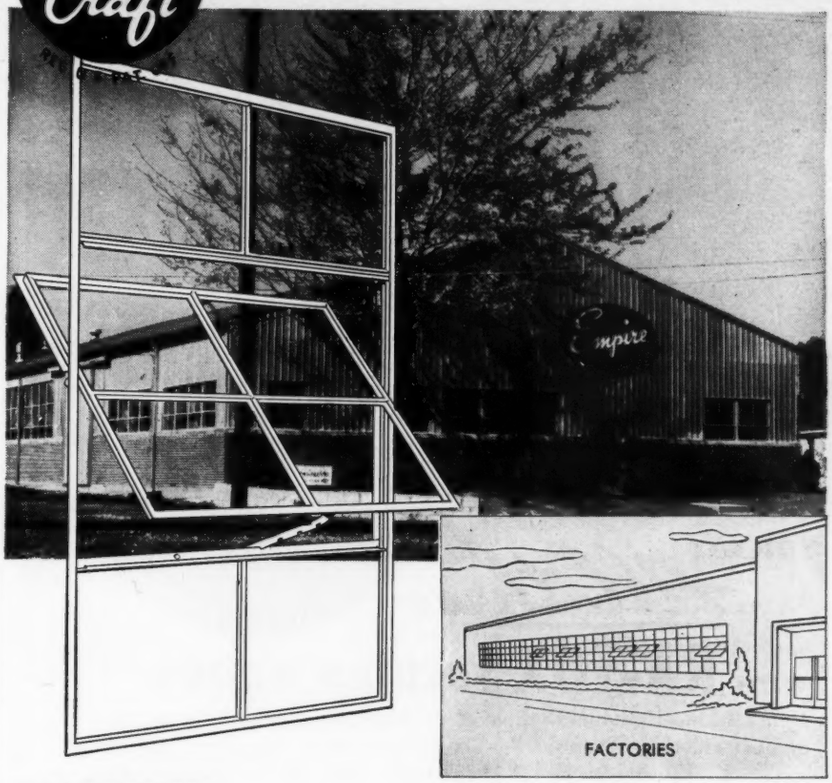
The 117 approvals are part of a package of 500 approvals offered by Central Mortgage & Housing Corporation to help get accommodation for workers at the giant A. V. Roe aircraft

(*Continued on page 36*)

New STEELCRAFT

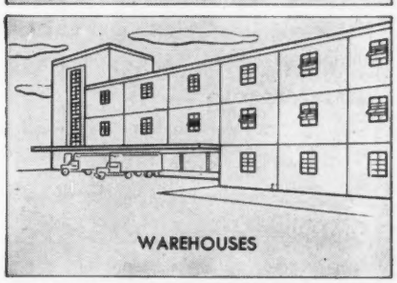
STEEL Craft

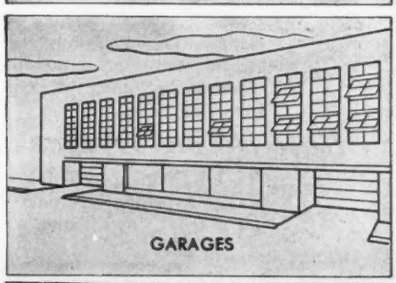
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achieved because (1) Ra-Tox Folding Doors are supplied to you complete with all hanging hardware and finished as specified, (2) installation requires only the mounting of an overhead track plus attachment of anchor molding and (3) much costly wall construction is eliminated since the door can be hung from ceiling to floor and from wall to wall.

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THE HOUGH SHADE CORPORATION

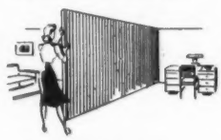
Ra-Tox Division JANESVILLE, WISCONSIN



WARDROBE DOORS



BETWEEN ROOM DOORS



ROOM DIVIDERS

CANADA

(*Continued from page 35*)

plant at Malton. The remaining 383 approvals are being offered, in blocks of up to 100 or so units, on a "first come, first served" basis. Builders must have serviced land on which to build within reasonable commuting distance of the plant, and adhere to National Housing Act standards of construction.

Under its recently revised lending regulations, CMHC will make 90 per cent mortgage loans to A. V. Roe employees purchasing these 117 defense houses. The transaction is handled direct. No lending institution is involved. The 22 other houses may be purchased by anybody, but the 80 per cent mortgage loan is handled through a lending institution.

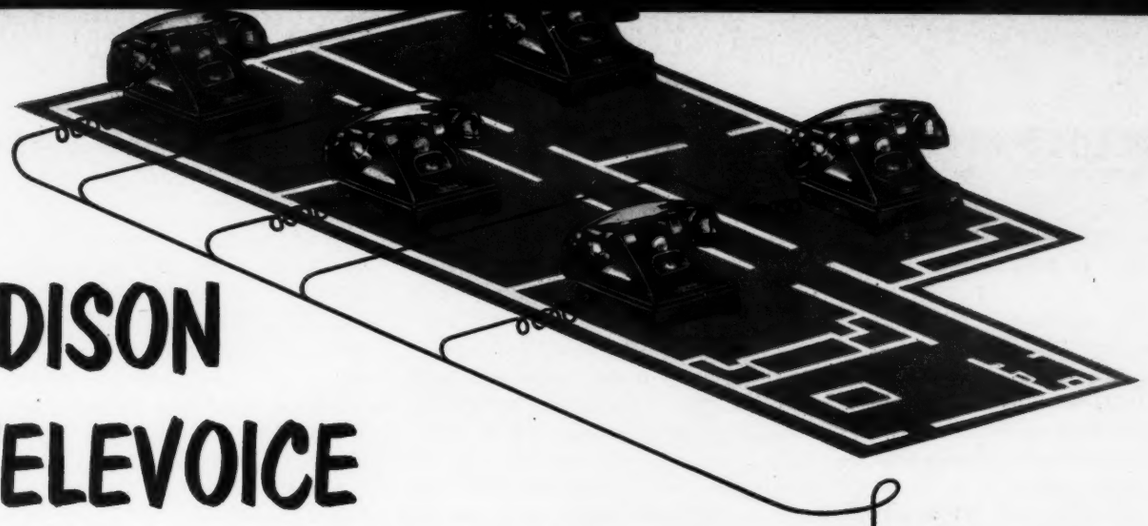
Agreed-on Price: $10,000

However, both the defense houses and the other houses have one thing in common. Their price, in the neighborhood of $10,000, was mutually agreed upon by Heslop and CMHC. This power to set the sales price gives the Corporation a throttle to control the number of new houses started in Canada in the immediate future.

Materials No Problem

Heslop certainly has no worries about the two latter items. Lumber and brick yards in the Toronto area are full to overflowing. Furnaces, boilers, even bathtubs — the "bête noir" of the postwar supply situation — may be had in abundance. About the only scarcities are steel beams, lintels, pipe and wire lath, and these are by no means impossible to get. Subcontractors are knocking themselves out to get a chance to bid, and skilled and unskilled labor come running at the crook of a finger.

It is likely that CMHC's agreement with Heslop will serve as a model for similar agreements elsewhere. At the moment, it doesn't look as if there'll be many of them, since Defense Production Minister Howe has designated only a handful of defense plants whose employees will qualify for 90 per cent mortgage loans. Besides Avro at Malton, there is Dowty, Ajax; Light Alloys, Renfrew; Cockshutt, Renfrew; Sorel Industries, Sorel; Canadair, Cartierville, and Canadian Car Foundry, Fort William, Port Arthur.



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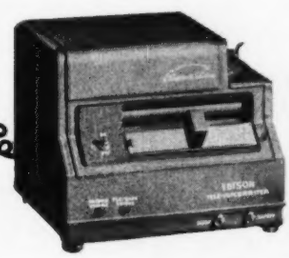
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By Ernest Mickel

"Temporary" Defense Housing: How to Get It and Install It

THE PUBLIC HOUSING Administration has implemented Title III of the Defense Housing and Community Facilities Services Act (1951) with the announcement of procedures for acquiring and installing temporary defense housing in critical defense housing areas.

By the end of last year, Raymond M. Foley, Housing and Home Finance Agency administrator, had made assignments for the provision of 4575 dwelling units in 24 projects destined for 22 critical defense housing areas. This temporary housing was expected to meet only partially the needs of the Army, Navy and Air Force installations it would serve.

Included in the initial assignments in the program were trailers and temporary portable units referred to as "prefabricated family demountables." The housing agency said that trailers will be procured by the central office in Washington on a competitive bid basis. Contracts for site work and installation of the mobile units will be let on a competitive basis by the PHA field offices within the respective critical area jurisdictions.

For the portable units, competitive bids will be taken in the PHA field offices and contracts let on the basis of overall development cost, including preparation of the site and erection of the homes. The temporary houses may be fabricated at the site or in a factory.

PHA field offices would select an engineer or architect to prepare the site plan, while the plans and specifications for the portable units are being made available to the field offices from Washington.

Engineers: FCDA Suggests Quotas for Civil Defense

Engineering services, vital to the economy at any time, take on a special significance during a period of national emergency. Add to this the possibility of enemy attack on American cities and the role of the engineer — and the architect — is projected into a new field of importance.

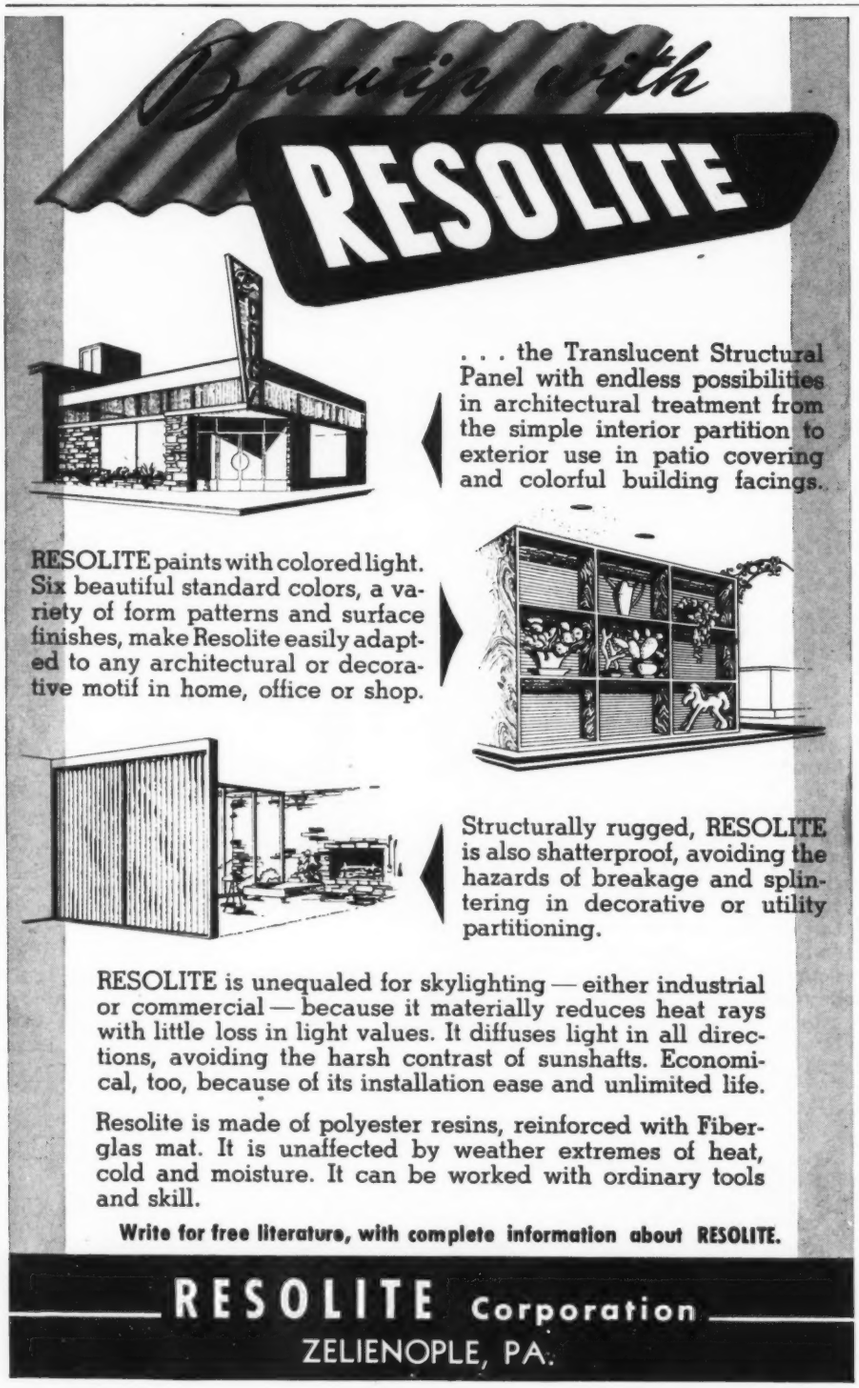
This was indicated in a recent tabulation by the Federal Civil Defense Administration listing percentage quotas by civil defense services for volunteers. It is recommended that in "target areas," those locations defined as most vulnerable, 190 volunteer engineers would be needed for every 10,000 population count. These would be part of a citizen volunteer force of 17.5 million estimated as necessary to man community emergency groups.

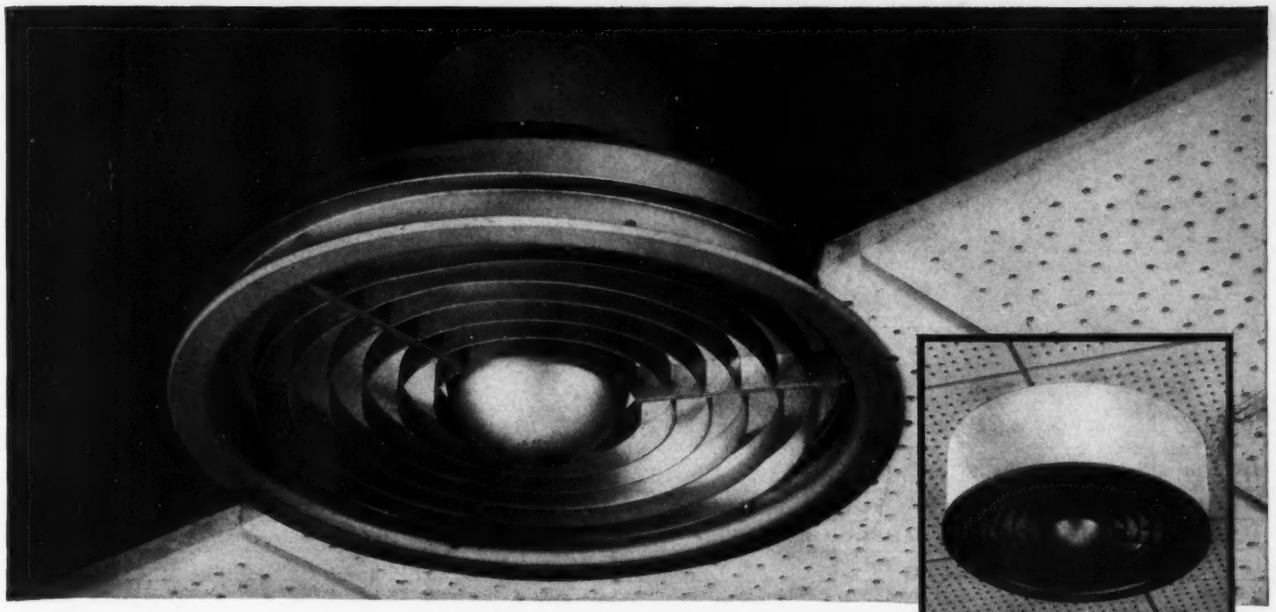
Post-Attack Functions

Following an attack, said the FCDA, engineering services would have the task of restoring such essential community services as communications, transportation, power and water supply; and emergency repairs to hospitals, streets, highways and bridges, would be handled by them.

In "support areas," adjacent to targets, the estimated percentage quota for engineers would drop to 130 per 10,000 population. Altogether an effective civil defense organization for the country will require the services of one out of every 12 citizens, civil defense authorities said.

(*Continued on page 340*)





Simple accessory ring permits attractive surface-mounted Silver-spot installations

NOW... a new, all-purpose incandescent downlight—the SILVER-SPOT

For a *really* new approach to commercial and residential lighting try the versatile, new Silver-spot downlight.

Combining the inherent efficiency of the 100-watt, A-21 silvered-bowl lamp with the precision light-control of a unique, built-in reflector, Silver-spot units eliminate glare and wasted spill light . . . produce more candle power than equipment using 150-watt reflector or projector lamps. Silver-spots offer these 5 *big* features:

1. Low Cost — Silver-spot units require minimum initial investment . . . offer lower lamp-renewal costs than any comparable unit. The 100-watt silvered-bowl lamp uses less energy . . . generates less heat.

2. Compact . . . easy to install — Recessed Silver-spot units fit into an opening 5⅛″ deep by 9¼″ in diameter. Surface-mounted Silver-spot units project only 3½″ below the ceiling.

3. Easy to maintain — Silver-spot fixtures can be relamped without removing louvres or handling fixture parts. A new lamp restores unit to initial efficiency.

4. Comfortable lighting levels — Silvered-bowl lamp provides completely shielded light source. Louvre provides 45° shielding of reflector.

5. Selective light distribution — Silver-spot units can be quickly changed to provide either floodlight or spotlight distribution. In either case, light output exceeds that of fixtures using 150-watt reflector or projector lamps.

Send for complete details — mail this coupon, today.



SKYLIKE Lighting, Inc.—a Silvray-associated company.
102 West Main Street
Bound Brook, New Jersey.

Gentlemen:

Please send me further information on the new Silver-spot downlight unit. I am particularly interested in lighting for:

☐ offices ☐ schools ☐ commercial buildings ☐ homes

Name_____

Firm_____ Title_____

Address_____

City_____ Zone____ State_____

CONSTRUCTION COST INDEXES

Labor and Materials

United States average 1926–1929 = 100

Presented by Clyde Shute, manager, Statistical and Research Division, F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assocs., Inc.

NEW YORK

Period	Residential		Apts., Hotels Office Bldgs.	Commercial and Factory Bldgs.	
	Brick	Frame	Brick and Concr.	Brick and Concr.	Brick and Steel
1925	121.5	122.8	111.4	113.3	110.3
1930	127.0	126.7	124.1	128.0	123.6
1935	93.8	91.3	104.7	108.5	105.5
1939	123.5	122.4	130.7	133.4	130.1
1940	126.3	125.1	132.2	135.1	131.4
1946	181.8	182.4	177.2	179.0	174.8
1947	219.3	222.0	207.6	207.5	203.8
1948	250.1	251.6	239.4	242.2	235.6
1949	243.7	240.8	242.8	246.4	240.0
1950	256.2	254.5	249.5	251.5	248.0
Sept. 1951	273.7	271.6	264.8	266.5	263.6
Oct. 1951	274.4	272.5	264.9	266.6	263.8
Nov. 1951	274.4	272.5	264.9	266.6	263.8
	% increase over 1939				
Nov. 1951	122.2	122.6	102.7	99.9	102.8

ATLANTA

Period	Residential		Apts., Hotels Office Bldgs.	Commercial and Factory Bldgs.	
	Brick	Frame	Brick and Concr.	Brick and Concr.	Brick and Steel
1925	86.4	85.0	88.6	92.5	83.4
1930	82.1	80.9	84.5	86.1	83.6
1935	72.3	67.9	84.0	87.1	85.1
1939	86.3	83.1	95.1	97.4	94.7
1940	91.0	89.0	96.9	98.5	97.5
1946	148.1	149.2	136.8	136.4	135.1
1947	180.4	184.0	158.1	157.1	158.0
1948	199.2	202.5	178.8	178.8	178.8
1949	189.3	189.9	180.6	180.8	177.5
1950	194.3	196.2	185.4	183.7	185.0
Sept. 1951	213.0	214.8	205.0	203.7	206.9
Oct. 1951	214.6	216.4	206.6	204.7	208.3
Nov. 1951	214.6	216.4	206.6	204.7	208.3
	% increase over 1939				
Nov. 1951	148.7	160.4	117.2	110.2	120.0

ST. LOUIS

1925	118.6	118.4	116.3	118.1	114.4
1930	108.9	108.3	112.4	115.3	111.3
1935	95.1	90.1	104.1	108.3	105.4
1939	110.2	107.0	118.7	119.8	119.0
1940	112.6	110.1	119.3	120.3	119.4
1946	167.1	167.4	159.1	161.1	158.1
1947	202.4	203.8	183.9	184.2	184.0
1948	227.9	231.2	207.7	210.0	208.1
1949	221.4	220.7	212.8	215.7	213.6
1950	232.8	230.7	221.9	225.3	222.8
Sept. 1951	253.5	249.5	241.4	243.8	241.4
Oct. 1951	255.6	252.4	241.2	243.9	241.6
Nov. 1951	255.6	252.4	241.3	243.9	241.6
	% increase over 1939				
Nov. 1951	131.9	135.9	103.3	103.6	103.0

SAN FRANCISCO

1925	91.0	86.5	99.5	102.1	98.0
1930	90.8	86.8	100.4	104.9	100.4
1935	89.5	84.5	96.4	103.7	99.7
1939	105.6	99.3	117.4	121.9	116.5
1940	106.4	101.2	116.3	120.1	115.5
1946	159.7	157.5	157.9	159.3	160.0
1947	193.1	191.6	183.7	186.8	186.9
1948	218.9	216.6	208.3	214.7	211.1
1949	213.0	207.1	214.0	219.8	216.1
1950	227.0	223.1	222.4	224.5	222.6
Sept. 1951	248.1	243.0	242.0	244.9	245.4
Oct. 1951	248.5	243.5	242.1	244.9	245.5
Nov. 1951	248.5	243.5	242.1	244.9	245.5
	% increase over 1939				
Nov. 1951	135.3	145.2	106.2	100.9	110.7

The index numbers shown are for combined material and labor costs. The indexes for each separate type of construction relate to the United States average for 1926–29 for that particular type — considered 100.

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110
index for city B = 95

(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926–29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.

These index numbers will appear regularly on this page.

another **HOMASOTE FIRST** — *designed to reduce the cost of building*

Which of these **WATER PROBLEMS** are you facing today?

— in concrete walls and floors below grade (AS-1)?

•

— in block walls and concrete floors below grade on exterior surfaces (AS-3)?

•

— in masonry block walls below grade on interior surfaces (AS-4)?

•

— in brick and stone mortar (AS-5)?

— in concrete floors for industrial use (AS-2)?

•

— in all exterior stucco finishes (AS-6)?

•

— in masonry paint on masonry surfaces (AS-7)?

•

— in restoring existing concrete (AS-8)?


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THE NOVA-I.P.C METHOD
— AS-1 —
for Waterproofing Walls and Floors Below Grade
CONCRETE WORK

New Construction

INTEGRAL WATERPROOFING

We invite you to write for Specification Data Sheets designed to meet any or all of the above conditions. We offer products and methods which have effected quick, economical and lasting results—on many different types of applications—over a period of years. (Obviously, we do not guarantee results—site unseen.) . . . Let us send you—without obligation—as many of these Specification Data Sheets as apply to your current problems. If they prove interesting, we invite the opportunity to present applicable case histories and to work with you on your current problems.

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Another group of **NOVASCO PRODUCTS**



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Without obligation — send Specification Data Sheets checked below.

☐ AS-1 ☐ AS-2 ☐ AS-3 ☐ AS-4
☐ AS-5 ☐ AS-6 ☐ AS-7 ☐ AS-8

NAME.....

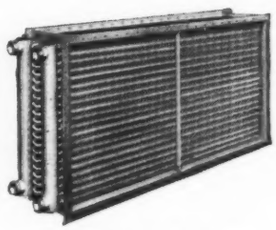
ADDRESS.....

CITY & ZONE.....STATE.....

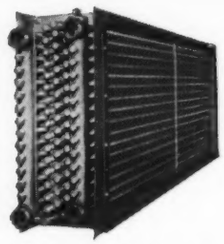
My lumber dealer is.....

SMART DECISION!

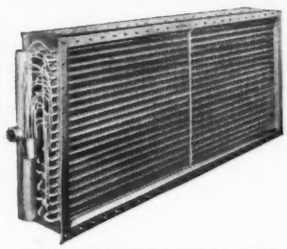
AIR CONDITIONING COILS



WATER COIL
For Cooling and Heating, 1 to 10 rows deep.



CLEANABLE TUBE WATER COIL
Removable Plug Type, 1 to 10 rows deep.



DIRECT EXPANSION COIL
For Cooling, 1 to 8 rows deep.

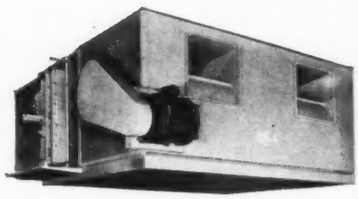
AIR CONDITIONING UNITS



SEASONMAKER—(FLOOR)
Also available in basic or ceiling types, 3 sizes 200 cfm, 400 cfm and 600 cfm.

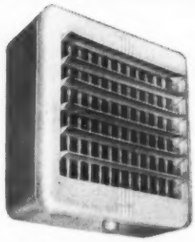


"RH" AIR CONDITIONER
2 to 10 Ton Models—For use with hot or cold water, steam or direct expansion in small commercial applications.



(SUSPENDED MODEL)
AIR CONDITIONER
Type "A" Central Station Air Conditioners for large industrial and commercial applications.

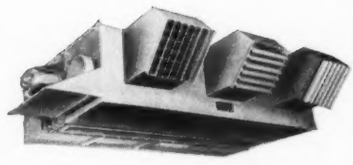
UNIT HEATERS



HORIZONTAL UNIT HEATER
Nominal Capacity range 20,300 to 360,000 Btu's.



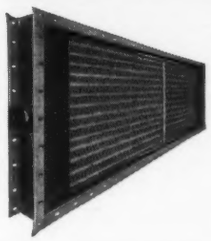
DOWN FLOW UNIT HEATER
Nominal Capacities from 25,400 to 500,000 Btu's.



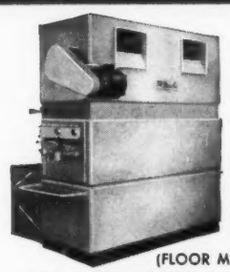
(SUSPENDED MODEL)
BLOWER TYPE UNIT HEATER
Nominal Capacities from 20,600 to 1,600,000 Btu's.

SPECIFY McQuay

TO INSURE CUSTOMER SATISFACTION



"BLAST" HEATING STEAM COIL
For Heating, 1 or 2 rows deep, using low or high pressure steam.



(FLOOR MODEL)
AIR CONDITIONER
Type "A" Central Station Air Conditioners for large industrial and commercial applications.



(FLOOR MODEL)
BLOWER TYPE UNIT HEATER
Nominal Capacities from 20,600 to 1,600,000 Btu's.

Proved and Preferred!

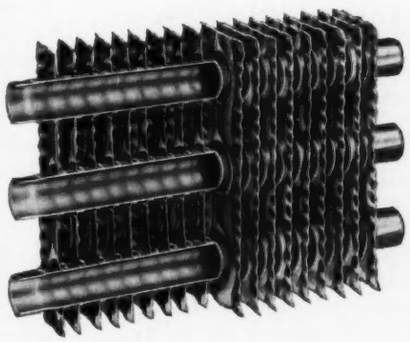
You, and your customers too, are money ahead when you specify McQuay . . . because McQuay products are proved and preferred—for their efficiency, economy of operation, and the way they stand up under long hard use.

Join the growing list of architects, engineers and contractors who depend upon McQuay to satisfy all of their heating and air conditioning requirements. Quality and price comparisons will convince you that it pays to specify from McQuay's complete line—pays in profits from the job and in customer satisfaction.

NEW RIPPLE-FIN COIL CONSTRUCTION

Only McQuay gives you Ripple-Fin surface—the product of years of research aimed at producing the ultimate in heat transfer for any weight of metal. High efficiency is assured by forcing the air to follow an ever-changing direction of flow in passing through the coil. Thus air repeatedly contacts coil surface to give maximum contact time, maximum contact velocity, and a resultant optimum heat transfer.

With this advance in design, McQuay retains the staggered tube and the McQuay rippled edge features so well known in the industry, and which contribute greatly to higher heat transfer, construction ruggedness, and eye appeal.



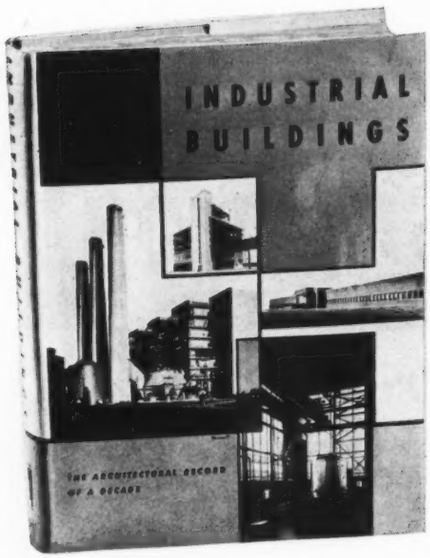
McQuay INC.

HEATING
AIR CONDITIONING
REFRIGERATION



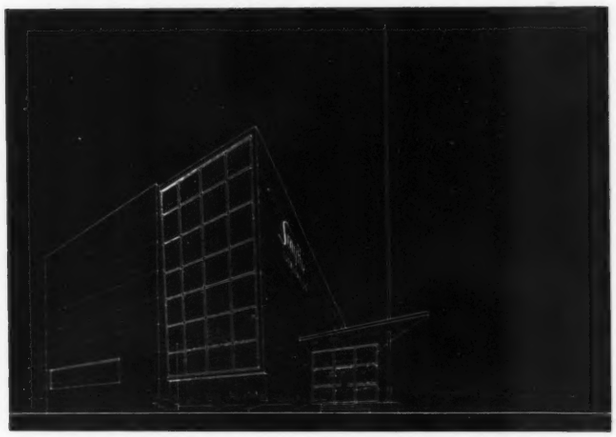
1605 BROADWAY STREET, N. E. • MINNEAPOLIS 13, MINNESOTA

REQUIRED READING



Above: Book jacket designed by Frances Torbert

Below: "a 1945 project for an industrial office building, by Albert Kahn Associated, Architects and Engineers. In place of rigid symmetry behind monumental entrance piers there is fluidity, off-center massing, grace"



INDUSTRIAL BUILDINGS

Industrial Buildings. The Architectural Record of a Decade. Compiled by Kenneth Reid, A.I.A. F. W. Dodge Corporation (119 West 40th St., New York, N. Y.), 1952. 8¾ by 11½ in. 546 pp., illus. $9.00.

REVIEWED BY JOSEPH DOUGLAS WEISS

This volume should be a welcome addition to the reference library of every architect. In it are such fine examples of contemporary architecture as Raymond McGrath's Chemical Factory, the Johnson and Johnson group of factories, the Van Nelle Plant in Rotterdam, and the by now historic Turbine Factory which was designed by Peter Behrens in 1909.

It is a thorough and informative book for those who seek more detailed data on the subject of industrial construction. It includes production flow diagrams, the plans resulting from and based on these studies, the description of the architect's job, and covers in detail many aspects of construction. A number of large projects for mass production plants, as well as small projects, are well described and illustrated. Other subjects covered are such things as standardized buildings for low-cost plants, the functional use of colors, standards of lighting, ventilating and heating, and many pages of Time-Saver Standards, all co-related to the subject. Special problems are discussed in a competent way by such eminent practitioners as members of the Albert Kahn organization and others.

It is in a way ironic that the portions of the book that deal with World War II construction contain such timely information as wartime substitute solutions to shortages of copper and other metals, as well as protection against external explosions. With our industrial potential being built up again to take care of defense needs, this material is indispensable to architects who are interested in this field, or who are about to enter it.

The reviewer has seen most of the contents of this book in ARCHITECTURAL RECORD, but it was rewarding to see the articles again, so ably organized by Kenneth Reid. Nothing but thumbing through the book can give an idea of the variety of subjects covered in this field, where more progress has been made both esthetically and technically than probably in any other field of architecture.

DESIGN THEORY

An Approach to Design. By Norman T. Newton. Addison-Wesley Press, Inc. (Cambridge 42, Mass.), 1951. 6 by 9 in., 144 pp. + xi.

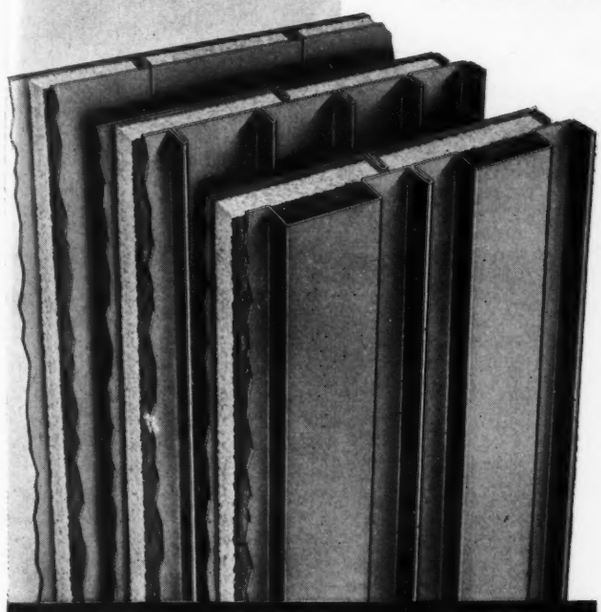
In 1946 a program of unified First Year work was established for students of the three professional schools of the Harvard Graduate School of Design. This book has grown out of a series of talks and discussions designed at that time to encourage the individual student to develop an attitude toward the "unified field of design" that would serve as a "broad and soundly flexible basis" for his creative work.

(Reviews continued on page 48)

INSULATED METAL WALLS

for INDUSTRIAL and COMMERCIAL BUILDINGS

ALUMINUM, STAINLESS or GALVANIZED STEEL



FLUSH, RIBBED, or FLUTED

Over-all "U" Factor of Various Types is Equivalent to or Better than Conventional 16" Masonry Wall

The trend in modern building is to this permanent, economical, quickly erected wall construction. In the past ten years Mahon Insulated Metal Walls have been employed in the construction of every conceivable type of building up to and including great power houses and complete industrial plants like the one illustrated below, in which 127,600 sq. ft. of exterior wall surface and all coping, flashing, etc., are aluminum. Mahon Insulated Metal Walls are available in two "Field Constructed" types, and in two types of "Prefabricated Panels", flush, ribbed, or fluted exterior. Walls of the "Field Constructed" type may be erected up to fifty feet in height without horizontal joints—a feature of Mahon walls which is particularly desirable in power house construction where high expanses of unbroken wall surface are often unavoidable. Mahon Prefabricated Insulated Metal Wall Panels, ready for rapid erection in the field, can be furnished in any length up to thirty feet. All Mahon wall plates and panels are one foot wide. These Mahon Insulated Metal Walls, together with a Mahon Steel Deck Roof, provide the ultimate in economy, permanence, and fire-safety in modern construction. See Sweet's Files for complete information including Specifications, or write for Catalog No. B-52-B.

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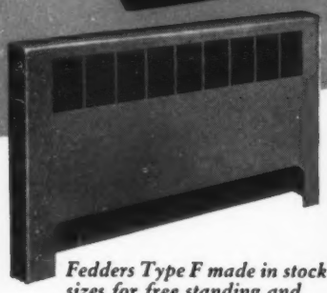
Manufacturers of Insulated Metal Walls; Steel Deck for Roofs, Partitions, and Permanent Concrete Floor Forms; Rolling Steel Doors, Grilles, and Underwriters' Labeled Rolling Steel Doors and Fire Shutters.



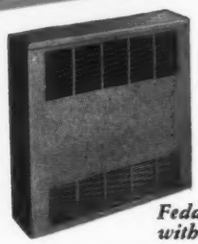
Mahon Insulated Metal Walls employed in construction of a new plant for Ford Motor Company in Cleveland, Ohio. F. A. Fairbrother and Geo. H. Miehls, Architect-Engineer. Albert Kahn Associated Architects and Engineers, Inc., Consultants. H. K. Ferguson Company, General Contractors.

MAHON

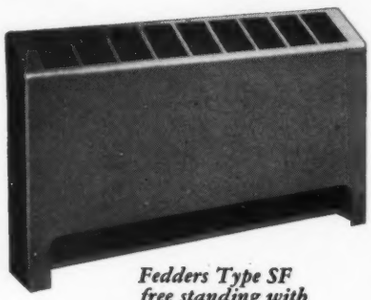
fedders OFFERS AMERICA'S



Fedders Type F made in stock sizes for free standing and semi-recessed installations. Also Type FO.



Fedders Type FB with base grille.



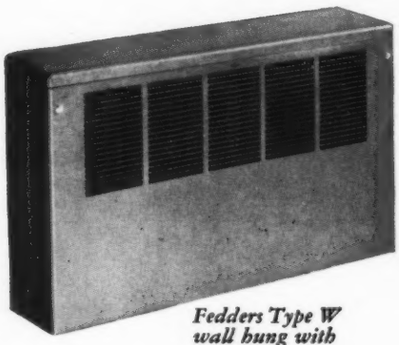
Fedders Type SF free standing with sloping top.



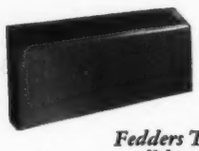
Fedders Type SFB free standing with sloping top and base grille.



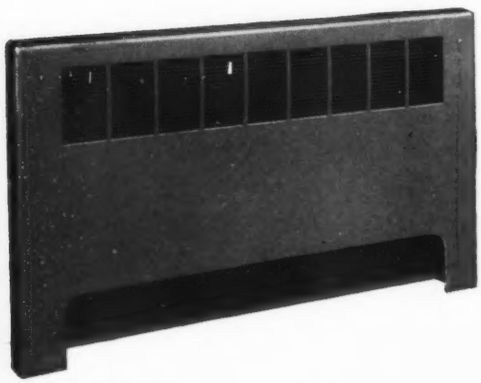
Fedders Type FE in sizes for special applications.



Fedders Type W wall hung with flat top.

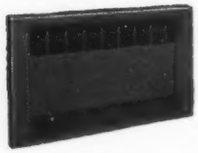


Fedders Type S wall hung with sloping top.



Fedders Type R semi-recessed with overlap front.

Cutaway view showing location of Fedders finned heating element in Convector cabinet. Note convenient arrangement for piping connections. Edges of cabinet are rounded for handsome styling.

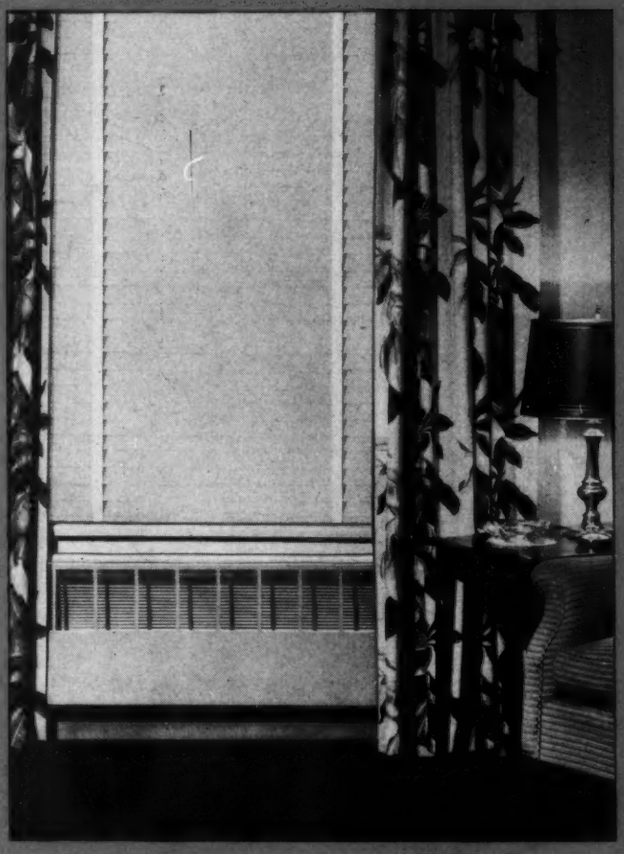


Fedders Type RB semi-recessed with overlap front and base grille.



QUALITY LINE OF

CONVECTOR-RADIATORS



Photograph shows attractive space-saving design of Fedders Type F Convector-Radiator installed in modern living room.

* FEDDERS Convector-Radiators offer architects, interior decorators, contractors and home owners a wide range of sizes and types to fit new and remodeling requirements.

Standard Type F free standing and semi-recessed models fit the majority of needs. Also, for one-pipe steam installations, Fedders now offers the new Type FO convector. In addition, other models give the profession and the industry wide latitude for special applications.

Flat, sloping top, wall hung and free standing models are available with and without base grilles to conform to any decorative treatment.

Fedders heating elements are also available for use with individually designed, concealed systems. Heating elements provide quick response to manual and thermostatic control.

Write for data sheets or consult yellow section of phone book for your local Fedders representative.

fedders

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FEDDERS-QUIGAN CORPORATION, 57 TONAWANDA STREET, BUFFALO 7, N. Y.

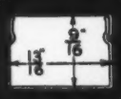
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The safe, efficient way to provide closely-spaced, correctly-located outlets for the convenient plug-in-anywhere of electrically-operated machines and equipment on assembly lines, work benches, inspection tables, in laboratories, engineering departments, offices . . . wherever it is essential to have all the outlets you need when you need them, where you need them.

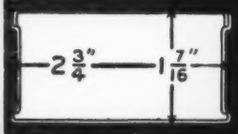




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Send today for this new bulletin describing in detail the PLUGMOLD trio.



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HARTFORD 10, CONN., DEPT. F
Please send me a copy of the PLUGMOLD bulletin.

Name _____

Company _____

Address _____

City _____ State _____

REQUIRED READING

(*Reviews continued from page 44*)

Concerned primarily with an approach to design, the book considers design — which involves "questions of structure, of order, and relation" — as a highly personal affair. Just as that which the designer builds must be structurally sound, so must the "thoughts, feelings, actions and reactions" with which the design was created, be sound. So also, the designer must be well-balanced, with a sympathetic understanding of people and a comprehension of the "major problems of human living."

Throughout the book, the author stresses the need for the individual to view the whole field of design as one of relations — a "continuing totality." Important though "space and the surface of the earth" are as basic working materials of design, the most important is people. Basically then, design has to do with the adjustment of relationship between humans and their environments, and the designer thus shares in the common goal — the quest for "optimum relations between people and their environments."

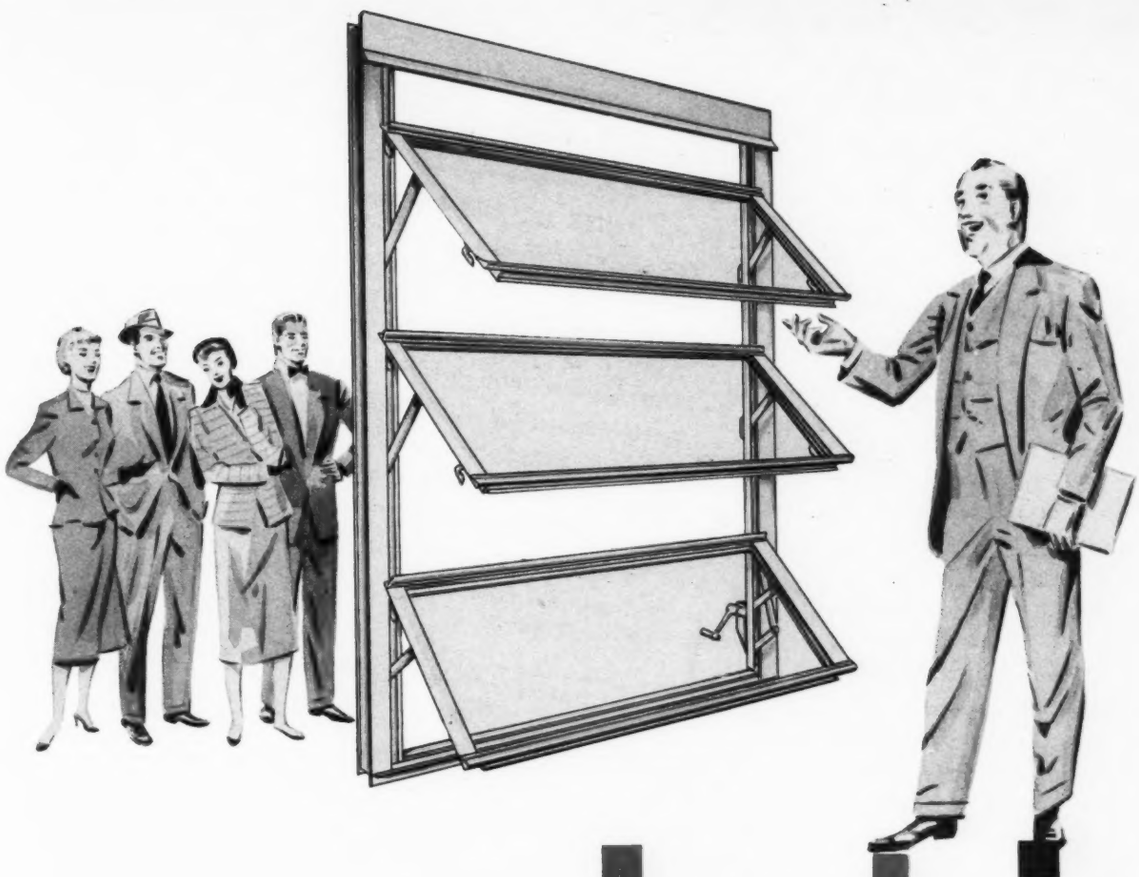
TODAY'S HEATING METHODS AND EQUIPMENT

***Heating Design and Practice.* By Robert Henderson Emerick. McGraw Hill Book Company, Inc. (330 W. 42nd St., New York 18, N. Y.), 1951. 6 by 9 in., 453 pp., illus. $8.00.**

Heavy emphasis is placed in this book on how various types of heating, from one-pipe steam systems to radiant panels, work in actual practice. The purpose of the book is to provide a rounded knowledge of both design and practice. The author outlines the basic theories of heating design and evaluates the different types of steam, hot water and warm air systems in the light of his personal experience and case histories. A detailed theoretical treatment is beyond the scope of the book, but it is sufficient for the reader to fully understand the operation of any system included. Up-to-date pictures show new types of heating equipment on the market which are also described in the text.

Another feature is the collation of information on such allied subjects as fuel handling, design of fireplaces and incinerators, and specifications and analysis of bids.

(*Reviews continued on page 380*)



what is important in a window?

here's what the experts agree is important in a window

here is a page...

taken from "Windows in Modern Architecture,"* considered by many the most comprehensive book ever written on the subject of fenestration. The standard rules for measuring the usefulness of a window have been reduced to these ten after diligent, painstaking research by the architect-authors, Geoffrey Baker and Bruno Funaro.

*Published by the Architectural Book Publishing Co.

OPENING SASH: THE BASIC TYPES

CHECK LIST FOR OPENING SASH

The particular requirements of each building will decide which of these features are most important:

Amount and quality of ventilation; possibility of control?

Is the window easily operated?

Weather protection when window is opened?

Weathertightness when closed?

What obstructions to view (rails, muntins)?

First cost? Maintenance costs?

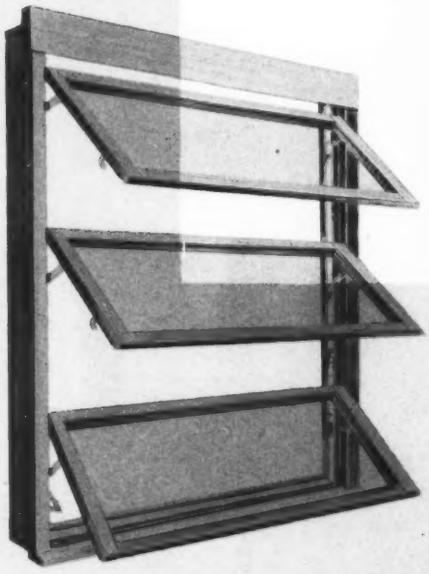
Glass cleaning? Can it be done from inside?

How does the window fit in with plans for screens, storm sash, blinds, etc.?

Opening sash is but a single e
of fenestration. The reason fo
vide ventilation; and so it is
a vent. The relative advanta
ventilator can be realistically
ered in relation to the com
which it is to serve. One t
termed suitable only for ce
Basically all ventilaton
(b) swing on pivots or hi
are combined. Those wh
but need space beyon
provide unobstructed
Those which swing
turn they provid
whole window
around the wi
All the
the wi

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the Auto-Lok window is the and only window that su combines all these 10 equ



Auto-Lok gives you everything you ever hoped for in a window

IT'S THE TIGHTEST CLOSING WINDOW EVER MADE!

No longer is it necessary to compromise. The prime question in fenestral specification for *maximum* window efficiency has been, *until now,* "Where shall we compromise?"

There *is* no compromise when you select AUTO-LOK. No longer is it necessary to accept weakness in any window in order to gain a particularly required feature...because AUTO-LOK is the *perfect window*...for any type of architecture...in any type of structure ...in any climate. AUTO-LOK is the *only* window that successfully combines the best features of all window types!

Ludman leads the world in Window Engineering

LUDMAN Corporation

MIAMI • FLORIDA



Check list for opening sash...

AMOUNT AND QUALITY OF VENTILATION?

AUTO-LOK checks: 100% ventilation -- draft-free. Vents open to almost 90° and entering air is always scooped *inward* and *upward* into the room.

POSSIBILITY OF CONTROL OF VENTILATION?

AUTO-LOK checks: You make your own weather! Perfect control in all positions from a slight crack of one vent to a full 100% opening of all vents.

IS THE WINDOW EASILY OPERATED?

AUTO-LOK checks: Friction-free, precision balanced, no-wear operation. Fingertip control with AUTO-LOK roto-type operator -- without touching screens! AUTO-LOK windows *never* stick.

WEATHER PROTECTION WHEN THE WINDOW IS OPEN?

AUTO-LOK checks: Awning-type design enables you to give your clients the luxury of healthful, refreshing ventilation during rains.

WEATHER-TIGHTNESS WHEN THE WINDOW IS CLOSED?

AUTO-LOK IS THE TIGHTEST CLOSING WINDOW EVER MADE... many times tighter than any other window. Patented self-locking device plus "Floating Seal" weatherstripping automatically seals the window tight and isolates weather to a degree heretofore believed impossible.

WHAT OBSTRUCTIONS TO VIEW (RAILS AND MUNTINS)?

AUTO-LOK checks: Fine narrow sight lines, though sash are extra strong. Concealed hardware eliminates unsafe, unsightly, dirt collecting, exposed mechanism.

FIRST COST?

AUTO-LOK checks: Initial cost compares favorably with competing products providing many less advantages. You cannot buy better window performance at any price.

MAINTENANCE COSTS?

AUTO-LOK checks: Simplified operation eliminates wearing parts; no periodic adjustments necessary. Ludman engineering leadership combines the best in design, the best in material and the best in workmanship to make a window that will perform for the life of the building with a minimum of maintenance.

CAN ALL WINDOW GLASS BE CLEANED FROM INSIDE?

AUTO-LOK checks: Window can be completely, comfortably and conveniently cleaned *entirely* from the inside. No gadgets to disengage. No sash to remove. Just open the window and it's ready to clean -- top vent too!

HOW DOES THE WINDOW FIT IN WITH PLANS FOR SCREENS, STORM SASH, BLINDS, ETC.

AUTO-LOK checks: Interchangeable, *inside* screen and storm sash easily placed and removed. Just flip the clips ...*no tools required!* Operator does not protrude into room. No interference to drapes, blinds, etc.

is the first
nat *successfully*
10 requirements

Auto-Lok
AUTOMATIC LOCKING PAT.
weatherstripped
WINDOWS
are superior
in every respect!

Auto-Lok
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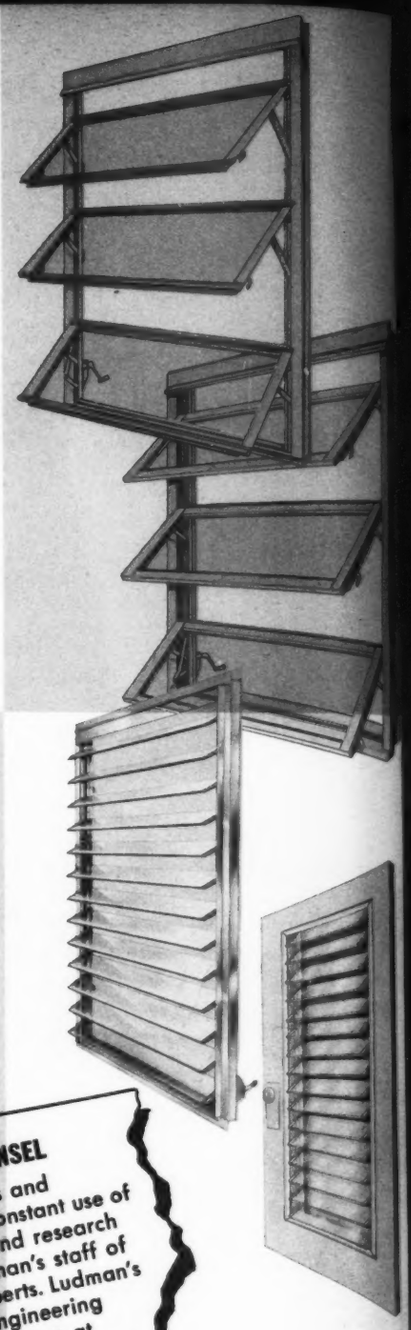
WINDOWS

ARE AVAILABLE IN

ALUMINUM OR WOOD

TO MEET YOUR REQUIREMENTS

The new AUTO-LOK wood window retains every operational feature of the performance-proven AUTO-LOK aluminum window...and, in addition, AUTO-LOK wood windows cost no more than a good grade of ordinary wood windows! Extra strong...1¾" thick... sash and extra heavy frames retain narrow sight lines, and they are toxic-treated against rot, termites, fungi, etc.



Use Ludman Windo-Tite Glass Jalousies when your plans call for the beauty and utility of louvered windows. Engineered to finest window specifications, in choice of extruded aluminum or wood frame, these precision made units have been laboratory tested for minimum air infiltration (*less* than average infiltration through ordinary windows). Also available with wood louvers -- wood or aluminum frames. Inside screens interchangeable with storm sash.

Ludman Windo-Tite Jalousie Doors with glass or wood louvers add a distinctive charm to any building. They provide 100% ventilation control, and because the screen is an integral part of the door, they eliminate old fashioned "extra" screen doors. By using storm panel in place of storm door, actually makes 3 doors in one!

ENGINEERING COUNSEL

Leading architects and designers make constant use of the experience and research facilities of Ludman's staff of fenestration experts. Ludman's research and engineering department is always at your service to supplement your own facilities.

LUDMAN products meet every fenestration problem. For further details see SWEET'S. Clip the handy coupon for the name of your nearest distributor and complete information:

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2800-square-foot PLEXIGLAS luminous ceiling in Rohm & Haas Company Engineering Building, Bristol, Pa. Corrugated white translucent PLEXIGLAS is mounted wall-to-wall below continuous runs of fluorescent lamps. Upper window glazing is corrugated gray PLEXIGLAS, for prevention of sky glare.

ENVIRONMENTAL LIGHTING . . . With a PLEXIGLAS Luminous Ceiling

For *environmental* room lighting, the whole field of view must be in brightness balance . . . as in this drafting room with its PLEXIGLAS luminous ceiling.

The surface brightnesses of the ceiling, the walls, and the window areas of this room are less than three times as bright as the paper on the drawing boards. Note how these surfaces produce a field of uniform brightness in which there are no eye-fatiguing light-to-dark contrasts.

An average illumination of 118 footcandles is provided through the PLEXIGLAS diffusing panels, without objectionable direct glare from the large-area ceiling surface.

PLEXIGLAS acrylic plastic offers other advantages as a diffusing medium. Because it is rigid, light in weight, and strong, PLEXIGLAS can be handled easily and safely during installation, cleaning, and relamping operations. And because it is highly resistant to breakage and discoloration, it gives long, low-maintenance service.

If *you* have a lighting problem, investigate *environmental* lighting with a PLEXIGLAS luminous ceiling. We'll be glad to send you full technical details about the installation shown above. Write for them.

CHEMICALS FOR INDUSTRY

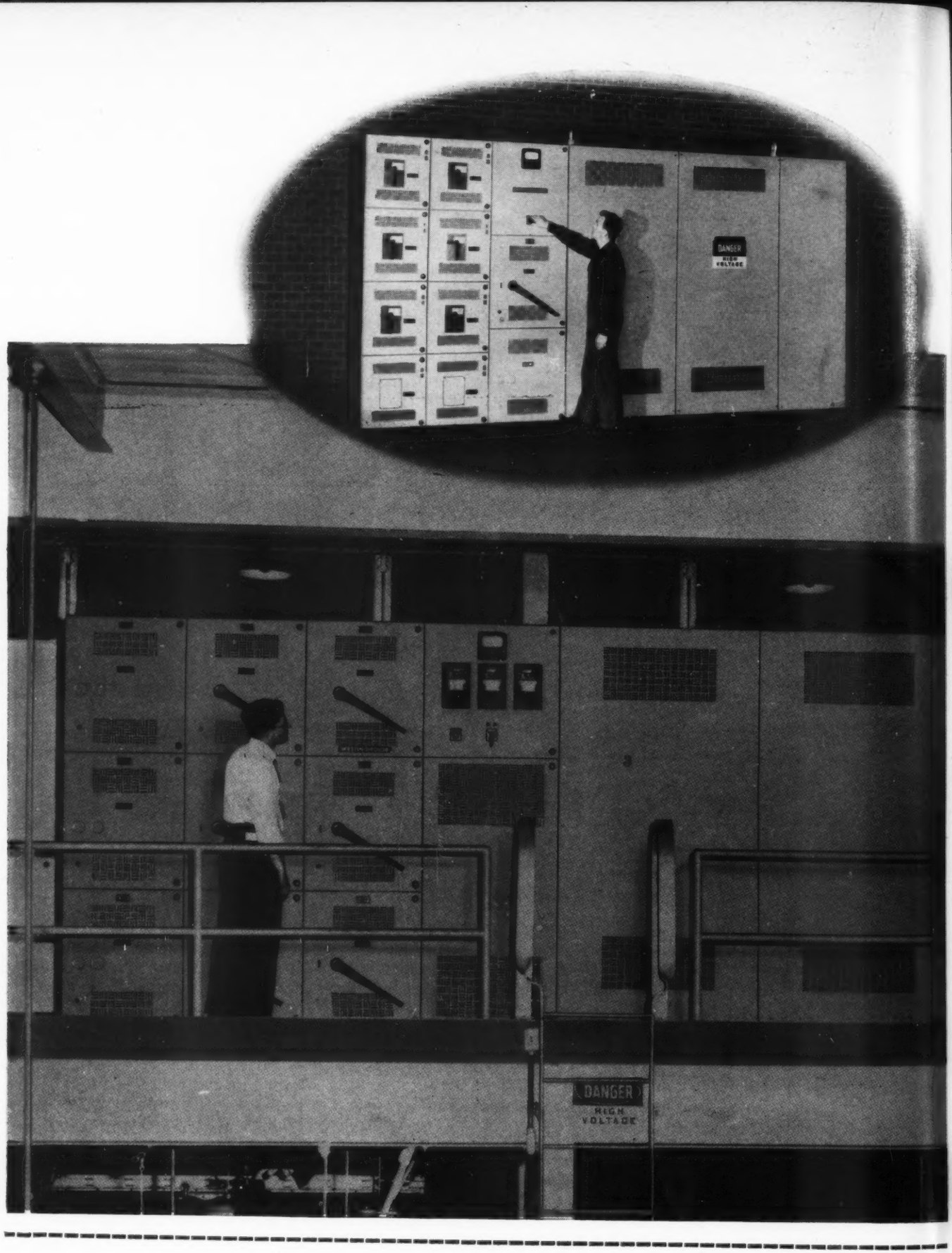
ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Representatives in principal foreign countries

PLEXIGLAS *is a trade-mark, Reg. U. S. Pat. Off. and in principal foreign countries.*

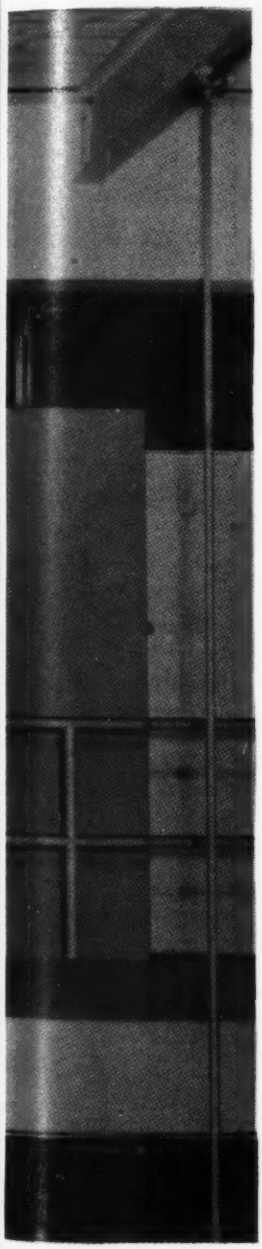
Canadian Distributor: *Crystal Glass & Plastics, Ltd., 130 Queen's Quay at Jarvis Street, Toronto, Ontario, Canada.*


DANGER
HIGH VOLTAGE
DANGER
HIGH VOLTAGE

Westinghouse Power Centers

Trim Power Control Costs

for Chicago Pneumatic Tool Company



Six Westinghouse Power Centers, consisting of dry-type transformers and switchgear, are serving operations in Chicago Pneumatic Tool Company's new plant at Utica, N. Y. And their favorable effect on power control costs—summed up in the following statement—suggests a savings opportunity for you.

"By bringing high voltage to the power centers, heavy copper from the main substation was avoided . . . voltage regulation and voltage drops were well within acceptable limits. Compact design enabled us to place some of the units on a small mezzanine to provide more space for production on the main floor.

"Since all units are duplicates, we enjoy maximum interchangeability and a resultant savings in spare parts. For future convenience and economy, spare feeder compartments are equipped to take additional breakers as the load increases."

Dry-type power centers will enable this user to realize even further savings. The elimination of vaults, oil conditioning and testing, promises a saving in routine maintenance. Freedom from fire hazard warrants lower insurance rates. Maintenance of a good voltage condition assures more efficient performance of manufacturing equipment.

GET THE COMPLETE STORY

Westinghouse Power Centers are the key to efficient power distribution. They offer better service continuity, greater flexibility, better regulation . . . all the things that contribute to power control economy. Most important, they provide the simplest, lowest-cost means of attaining the power system that best meets your operating requirements.

Booklet B-4162 covers Westinghouse Power Centers in detail. Booklet B-4045 discusses various types of plant distribution systems wherein power centers offer maximum advantage. For your copies, contact your Westinghouse representative or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. J-60763

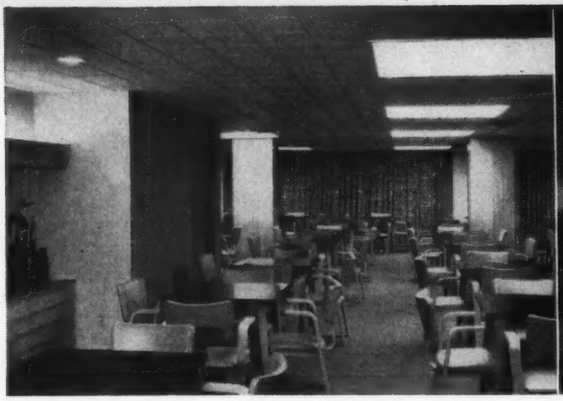


YOU CAN BE SURE... IF IT'S Westinghouse

POWER CENTERS

SELECTING ACOUSTICAL MATERIALS





Card room: Cushiontone White factory-finish



Lobby, looking west: Cushiontone, painted Coral

SANS SOUCI HOTEL, Miami Beach, Florida

Roy F. France & Sons, Architect for the Structure
Morris Lapidus, Associate Architect and Interior Designer
Acoustical Contractor, Lotspiech Flooring Company

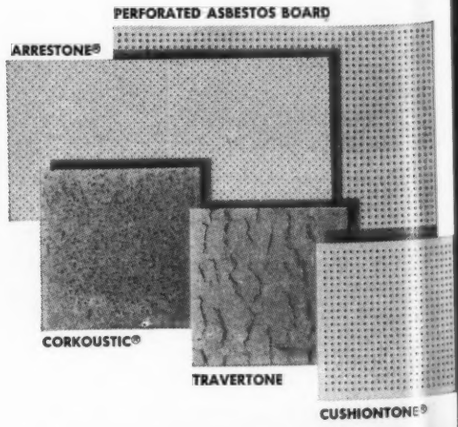
Lobby terrace: Cushiontone, painted Coral



The exciting use of color in the beautiful Sans Souci Hotel demanded acoustical ceilings that could be repainted. Acoustical efficiency and architectural beauty were also important factors in the choice of an acoustical material.

Architect Morris Lapidus selected Armstrong's Cushiontone because it can be repainted without losing efficiency. This popular wood fiber material is high in sound absorption, and its attractive surface is cleanly perforated.

Armstrong's complete line of acoustical materials offers you a wide range of special features. Your Armstrong Contractor will give you expert advice without obligation. Write for free booklet, "How to Select an Acoustical Material." Armstrong Cork Company, 5402 Stevens St., Lancaster, Pennsylvania.

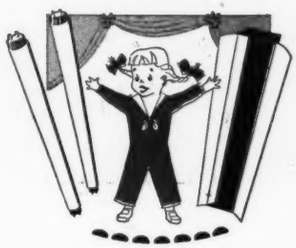


ARMSTRONG'S ACOUSTICAL MATERIALS

HOW BALLASTS CONTRIBUTE
TO BETTER FLUORESCENT LIGHTING



FREE! New G-E Book Tells "Flora's" Story



Meet a young lady you should get to know—Fluorescent Ballast ("Flora" for short). Says Flora:

"If you haven't met me before, that's because they keep me backstage out of sight and let the lamps take all the bows. I don't mind because, as you'll soon see, the lamps couldn't perform at all without my help.

"My name comes from what I do. My main job is to keep fluorescent light steady . . . on an even keel . . . something like the 'ballast' in a ship. I stabilize the flow of electricity through the lamp . . ."

And so Flora tells her story in simple, easy-to-understand language. In addition to explanations of fluorescent lighting itself, the booklet contains simple explanations of various ballast circuits and the advantages and disadvantages of each. From the simplest resistance ballasting to automatic starters, up through two-lamp ballasts, instant-starting lamps, series operation with sequence starting and, finally, trigger-start ballasts—all are carefully described.

To find out how good ballasts save you money, and why they are vital to fluorescent lighting, fill out the coupon and send it in. You'll receive your copy of "Fluorescent Ballast Tells Her Story" immediately.

General Electric Co., Sect. F 412–95,
Schenectady 5, New York

Gentlemen: Please send me FREE copy of your booklet, GEA-5731, "Fluorescent Ballast Tells Her Story."

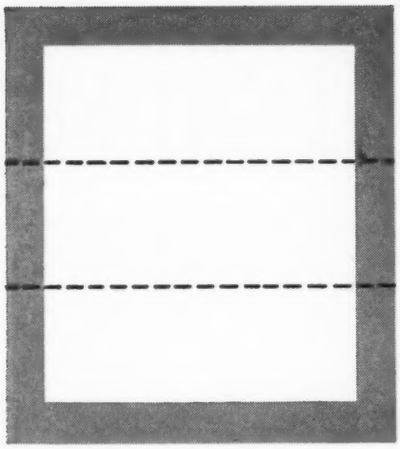
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Appearance counts, as well as convenience, in planning locations for open shelves. It's the same with telephone outlets. By including outlet locations in your mechanical plans, you can be sure your client will enjoy conveniently placed telephones. And by specifying built-in telephone raceways, you guarantee that telephone wires will be concealed.

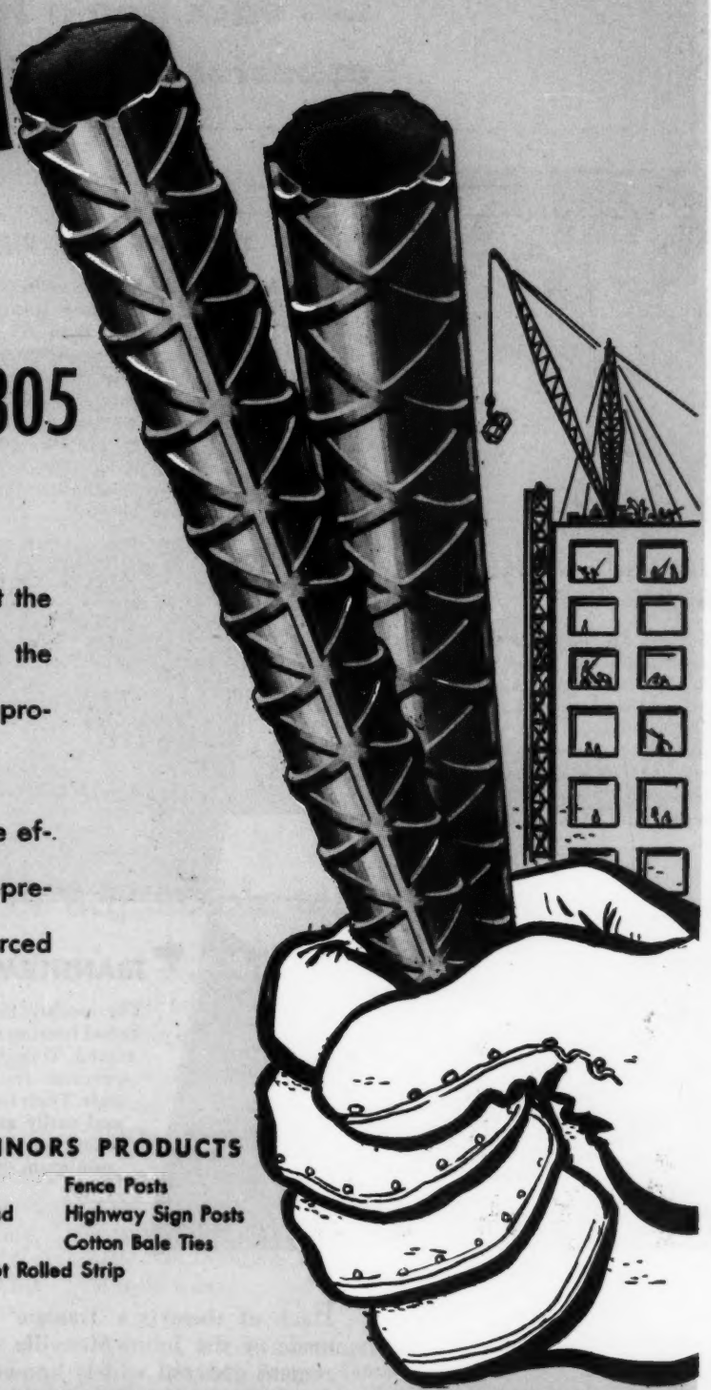
Your Bell Telephone Company will be glad to help you plan economical raceway installations. Just call your nearest Business Office.

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NOW in production!

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- We are pleased to announce that the new improved reinforcing bar meeting the ASTM A305 specification is now being produced at CONNORS.

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④	.668	.500	.20	1.571
⑤	1.043	.625	.31	1.963
⑥	1.502	.750	.44	2.356
⑦	2.044	.875	.60	2.749
⑧	2.670	1.000	.79	3.142
⑨	3.400	1.128	1.00	3.544
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⑪	5.313	1.410	1.56	4.430

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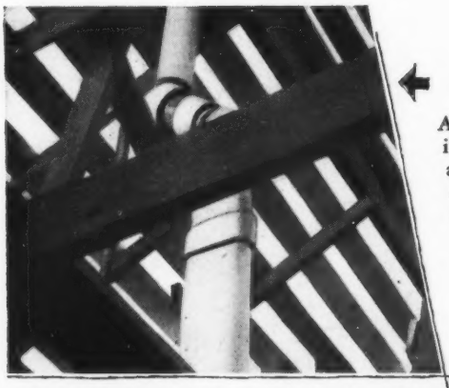
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BIRMINGHAM, ALABAMA



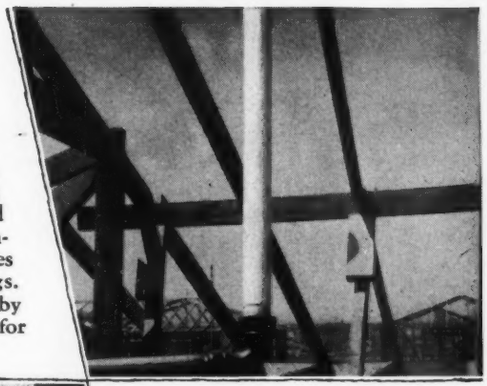
4 PIPES *Designed* TO DO 4 JOBS BETTER

. . . each one a Johns-Manville quality asbestos-cement product



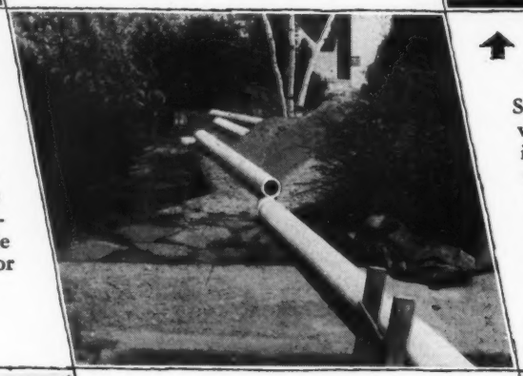
TRANSITE FLUE PIPE

A favorite with both architects and installers for venting gas-burning appliances, more than 65 million feet of this popular pipe are now in service. It cannot rust, is tough and strong, easy and economical to install. Made in round and oval shapes with a complete line of fittings. Transite Flue Pipe has been listed by UL continuously since 1932. Ask for Brochure TR-13A.



TRANSITE HOUSE CONNECTION SEWER PIPE

Specify this pipe for the most economical performance in house sewer line service. Its Ring-Tite Couplings are specially designed to safeguard against root-clogging; its long 10-foot lengths and wide choice of fittings simplify installation. Tough, strong, corrosion-resistant, it provides a lasting, dependable connection between house and street sewer or septic tank. Ask for Brochure TR-82A.



TRANSITE PLUMBING VENT PIPE

Specifically designed for the dry vent portions of building plumbing systems. Its strength, durability and inherent corrosion-resistance assure lasting serviceability. Ten-foot lengths reduce number of joints, facilitate installation. On many jobs, a single length is all that's required. Installed in accordance with standard plumbing practices. Ask for Folder TR-107A.



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The modern duct for perimeter and radial heating systems. Made of time-tested Transite for strength and corrosion-resistance — can't rust or scale. Their long lengths, light weight and easily assembled joints simplify handling, cut installation time to a minimum. Ask for Folder TR-111A.

Each of these is a Transite* product made of the Johns-Manville asbestos-cement material widely known for its durability and resistance to corrosion. Each provides dependable, economical service on the job for which it was designed. For further information, write for literature mentioned above. Address Johns-Manville, Box 290, New York 16, N. Y.

*Reg. U.S. Pat. Off.

JOHNS-MANVILLE JM PRODUCTS

Johns-Manville TRANSITE PIPE

Designed for Better Home Construction

THE UPJOHN COMPANY's new manufacturing building in Kalamazoo, Michigan. Auditorium, cafeteria, employee lounge and offices are air conditioned and use Kno-Draft *Adjustable* Air Diffusers throughout. *The Austin Company, Engineers and Builders.*



from a kno·draft adjustable air diffuser

No. 1 reason why so many Kno-Draft *Adjustable* Air Diffusers are being specified and installed these days is because they do their job right. Soundly engineered and uncomplicated in operation, they distribute air evenly and *without drafts.*

No. 2 reason is beauty. Dynamically simple in design, Kno-Draft *Adjustable* Air Diffusers are "at home" in any surroundings—whether left in their natural spun aluminum finish or painted to match the ceiling.

No. 3 reason is adjustability *after* installation. This saves an enormous amount of slide rule figuring. A simple screw-driver adjustment balances temperature and air distribution throughout the conditioned area.

No. 4 reason is customer satisfaction. Users *like* the results they get with Kno-Draft *Adjustable* Air Diffusers. There are types and sizes to meet every need.

NEW EDITION! KNO-DRAFT DATA BOOK now in new 32-page format. Complete up-to-the-minute specifications, engineering and installation data on Kno-Draft *Adjustable* Air Diffusers. Bring your files up to date. Mail coupon today.

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FIRST...

CHECK WHAT'S READY-MADE IN ALUMINUM!



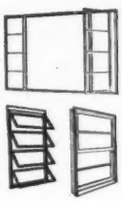
The best promoters of aluminum's versatility as a building material are the designers and builders themselves. Each great step forward in architecture has been brought about by a new freedom from the shackles of *weight* ...and the lightness and strength of aluminum have introduced a new era in building.

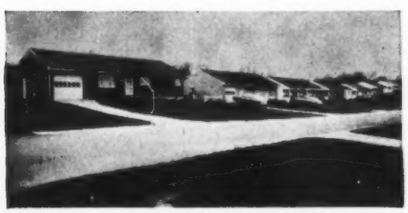
To these structural advantages, aluminum adds inherent beauty... forever free from rust...needing no protective painting. And its radiant heat reflectivity is an important bonus in roofing and siding...a means of combining, in insulation, high thermal efficiency with positive vapor barrier.

For these advantages, aluminum is specified in many forms. But the most economical forms, where they fit your purpose, are the building products *mass-produced* by Reynolds, the leaders in the field. Their applications are more versatile than may at first appear! Write for literature.

Reynolds Metals Company,
Building Products Division,
2015 South Ninth St.,
Louisville 1, Kentucky.

Reynolds Aluminum Residential Casement Windows in the Armour Towers Apartments, Kansas City, Mo.—Luther Willis, architect; Colliers Const. Co., contractor. These corner-welded casements are adaptable to many architectural functions. Reynolds Awning Windows are also ideal for institutional and commercial use. These and Reynolds Double-Hung Windows are all made of Reynolds own extruded shapes, superbly finished.

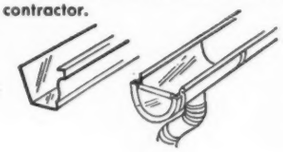




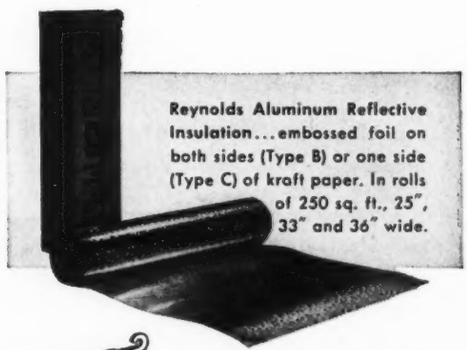
Five miles of Reynolds *Lifetime* Aluminum Gutters in this Overland Park, Kansas, development. H. Duncan & Mulhern, architects; George Miller, contractor.



Six buildings on Long Island roofed with Reynolds *Lifetime* Aluminum Industrial Corrugated—.032" thick with corrugations 7/8" deep.



Remember, too, Reynolds *Lifetime* Aluminum Flashing — in convenient rolls or flat sheet.



Reynolds Aluminum Reflective Insulation...embossed foil on both sides (Type B) or one side (Type C) of kraft paper. In rolls of 250 sq. ft., 25", 33" and 36" wide.



Military demands for aluminum limit supply of these products. Reynolds is rapidly expanding aluminum production. Keep checking your supply source.

REYNOLDS ALUMINUM

"The Kate Smith Evening Hour" on Television, Wednesdays — Tallulah Bankhead in "The Big Show" on Radio, Sundays — NBC NETWORKS

for time-saving, money-saving

POWER DISTRIBUTION



SQUARE D FEED-IN DUCT

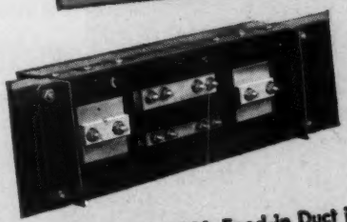
is the most efficient way to transmit large amounts of power. It provides the lowest known voltage drop—only 1.8 volts per 1000 amperes per 100 feet.

Exclusive design requires no ventilation—permits a totally enclosed, compact, dust-excluding enclosure. Rigid construction provides high resistance to heavy electrical stresses.

SQUARE D PLUG-IN DUCT

provides flexible power distribution for branch circuits. Machinery can be rearranged quickly at minimum cost. Plug-in units can be attached at frequent intervals along the length of the duct, providing power where it's needed, when it's needed.

BUSWAY FEATURES PROVE DESIGN LEADERSHIP



NEW JOINT DESIGN. Feed-in Duct joint design saves installation time and reduces maintenance cost. Duct ends are identical—unnecessary to select mating ends before positioning or hanging duct sections. Outward-facing, pre-installed bolts permit rapid assembly and easy maintenance.



ROUND BUS BARS for Plug-in Duct provide greater mechanical strength and resistance to short-circuit stresses. Circuit breaker or fusible type plug-in units are easily installed at 2-foot intervals along both sides of the duct. Plug-in stabs grip the round bus bars with exceptionally high pressure.



FLEXIBLE CONNECTORS of laminated copper join bus bars between sections—permit proper alignment, insure tight joints and provide for expansion and contraction at Plug-in duct joints. All bolt heads face outward for greater accessibility.

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

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HOPE'S WINDOWS, INC., *Jamestown, N. Y.*

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ZURN TYPE REST ROOMS HAVE FIXTURE-BARE FLOORS



A FIXTURE-BARE FLOOR IS, AS IT IS, ALWAYS!



Immaculately clean! Cleanliness is no problem in toilet rooms where plumbing fixtures are off the floor, because there is nothing to interrupt the sweep of the broom and the swish of the mop. Fixture-bare floors reduce the day by day dollar cost of maintenance to an all-time low while lifting sanitation to a new high. A New Way of building utilizes wall type plumbing fixtures throughout, installed the Zurn Way—the simple, fast, safe way of installing wall type closets, lavatories, sinks and other fixtures. This New Way reduces the use of building material; eliminates need of suspended ceiling constructions; requires less space for walls; saves time and labor and protects rest rooms from premature obsolescence. Specify wall type plumbing fixtures installed with Zurn Wall Closet Fittings and Carriers. Write for booklet entitled, "You Can Build It (Cubic Foot of Building Space) For Less The New Way".

Write for this booklet. It tells how "You Can Build It (Cubic Foot of Building Space) For Less A New Way".



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Please send me the new Zurn Booklet, "You Can Build It (Cubic Foot of Building Space) For Less A New Way."

Name and Title .....

Company .....

Street .....

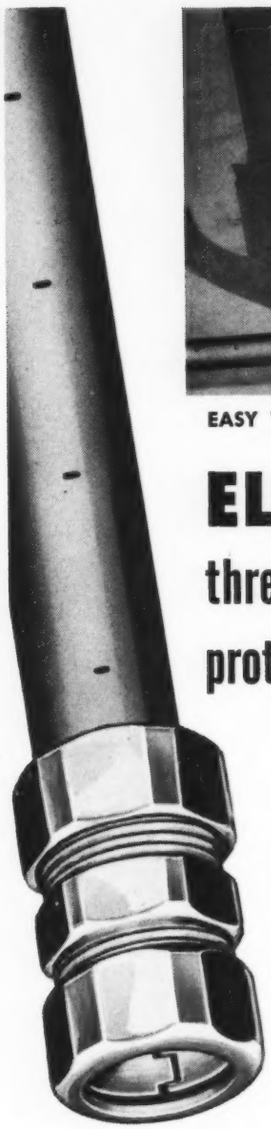
City and State .....

Please attach coupon to your business letterhead. Dept. AR

Rest Rooms with Fixture-Bare Floors in These Buildings and Hundreds of Others:

OFFICE BUILDINGS: Farmers Mutual Insurance Company, *Madison*, Wis. • New Hampshire Fire Insurance Building, *Manchester*, New Hampshire • Southwestern Bell Telephone Co., Toll Building, *Houston*, Texas • International Business Machines, *Endicott*, N. Y. • General Food Building, *Newark*, N. J. • The Texas Company, *Minneapolis*, Minn. • Humble Oil Company, *New Orleans*, La. • **EDUCATIONAL BUILDINGS:** Fisher Memorial Dormitory, University of Notre Dame, *Notre Dame*, Ind. • Maple Heights High School, *Maple Heights*, O. • Dilworth School, *Salt Lake City*, Utah • New Engineering Laboratory, Virginia Polytechnic Institute, *Blacksburg*, Va. • Medical Research Building, University of Michigan, *Ann Arbor*, Mich. • **INDUSTRIAL BUILDINGS:** DeLaval Separator Company, *Poughkeepsie*, N. Y. • Houston Lighting and Power Company, *Houston*, Texas • Berkshire Knitting Mill, *Andrews*, N. C. • Minneapolis Honeywell Regulator Co., *Minneapolis*, Minn. • Chrysler Corporation, *Trenton*, Mich. • Dan River Mills, *Philadelphia*, Pa. • Court House and City Hall Building, *Minneapolis*, Minn. • Oregon State Penitentiary, *Salem*, Oregon • **HOSPITAL BUILDINGS:** Cuyahoga County Chronic Hospital, *Warrensville*, O. • National Jewish Hospital, *Denver*, Colo. • Terrell State Hospital, *Terrell*, Texas • Memorial Hospital, *Algoma*, Wis. • Central State Hospital, *Petersburg*, Va. • Oakwood Hospital, *Dearborn*, Mich. • **TERMINAL BUILDINGS:** New Norfolk and Western R. R. Warehouse, *Roanoke*, Va. • Holland American Line Terminal, *Hoboken*, N. Y. • New Greyhound Terminal, *Phoenix*, Ariz. • **MERCANTILE BUILDINGS:** Emporium, *Oakland*, Cal. • Sugarland Shopping Center, *Sugarland*, Texas • Federal Stores, *Cleveland*, O. • Macy's Kansas City Store, *Kansas City*, Kan. • Rexall Drug Company, National Headquarters Building, *Los Angeles*, Cal. •

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EASY TO BEND



EASY TO CUT

ELECTRUNITE E. M. T. the lightweight threadless Raceway that completely protects conductors with steel



EASY TO INSTALL

Conductors are fully protected from fire, moisture, and mechanical injury when they're housed in ELECTRUNITE E.M.T. . . . the strong-and-light steel raceway that carries the inspection of Underwriters' Laboratories and meets requirements of The National Electric Code for exposed, concealed, and concrete locations.

Ease of installation is another advantage of ELECTRUNITE E.M.T. It's easy to bend accurately . . . exclusive "Inch-Marked"® feature, plus the ELECTRUNITE Handy Bender, assures accurate bends. You can cut ELECTRUNITE E.M.T. quickly with a hacksaw. Easy-to-use compression fittings eliminate thread cutting and permit rapid, moisture-tight assembly of runs without turning whole lengths of raceway. The exclusive inside-knurl feature makes wirepulling fast and trouble-free.

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Announcing... THE NEW FABRON COLLECTION— UNSURPASSED IN THE BEAUTY AND RANGE OF ITS COLORS AND PATTERNS

■ In the new Fabron collection, you'll find colors that sparkle in gay, lively accents . . . colors that parade in deep and luxurious "decorator tones" . . . colors that soothe in delicate pastel tints! You'll find geometrics . . . textures . . . abstracts . . . florals . . . plaids —yes, even "juveniles"! In short, you'll find a collection styled to meet your every decorative need . . . and at a cost within even the average budget.

Best of all, you'll *still* find in FABRON the most *practical* answer to your wall decorating problem. For, only with FABRON, is decoration wedded with long-term durability . . . positive protection against plaster-cracks . . . unlimited washability . . . sunfast colors . . . easy installation . . . and—of vital importance—*fire-protection certified by the Underwriters' Laboratories.*

Whether you're familiar with FABRON or not—whether you've observed first-hand its unmatched service and performance . . . or are just in the "I want to be shown" stage—you'll want to find out more about this new collection. Why not mail the coupon—today!

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The institutional field's only specialists in plastifused fabric wall coverings.

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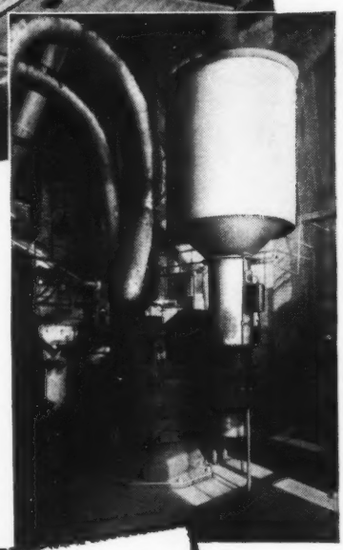
Louis G. Notte,
Chief Power Engineer,
Little Falls Laundry,
Little Falls, N. J.

(ACTUAL CASE HISTORY OF THE LITTLE FALLS LAUNDRY, LITTLE FALLS, N. J.)

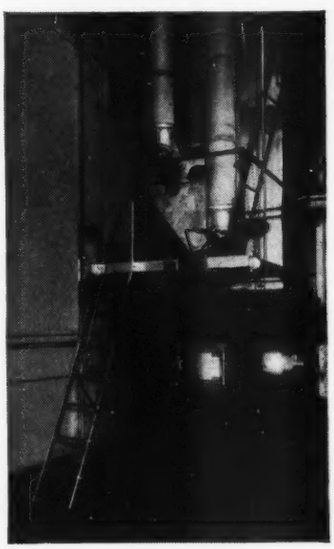
"Our laundry is one of the largest in the country," says Chief Power Plant Engineer Notte, "and, we think, one of the most progressive. Our company insists on superior performance at lowest possible cost all along the line. That's exactly why we depend on coal-fired equipment. From coal we get the daily amount of BTU's we need at a cost of $200—to get the same BTU's from oil would cost $280. We can change to oil on less than a day's notice—but so far we've *never* done it. Coal does a great job—cheaper."



To this plant in Little Falls 500 employees come to take care of the laundry for an estimated 100,000 people. And from this plant 100 trucks travel to customers across a 5,000 square-mile area! The laundry depends on coal to provide all electric power and lights—heat for all buildings—steam for hydraulically-operated machines—steam for pressers and dryers.



The pulverizer from which coal is blown into the boiler. Before this operation, the laundry employs a conveyor belt to feed a precrusher. From there, conveyors carry the coal to the 100-ton hopper which feeds the pulverizer. *Modern coal devices slash labor costs—make coal's basic economy even greater.*



A section of the modern coal-fired boiler. With equipment like this it's possible to add 10% to 40% to the power derived from the same amount of coal in years past—to bring over-all boiler efficiency to 85% or more.

If you're running your own steam plant, here are a few down-to-earth facts you don't want to miss!

COAL in most places, is today's most economical fuel.

COAL resources in America are adequate for all needs—for hundreds of years to come.

COAL production in the U. S. A. is highly mechanized and by far the most efficient in the world.

COAL prices will therefore remain the most stable of all fuels.

COAL is the safest fuel to store and use.

COAL is the fuel that American industry can count on more and more—for with modern combustion-and-handling equipment, the inherent advantages of well-prepared coal net even bigger savings.

● Plants that use coal are in an enviable position—at the present *and* for the future. *For they are more certain than the users of other fuels of a dependable fuel supply—at stable prices.* The reasons are compelling. Of America's total fuel reserves, 92% is coal: Even today, oil is *imported* while this country can and does *export* coal. In addition—this country's mines are the most highly mechanized and efficient in the world.

To get *all* the great economy that coal is capable of delivering—to find out how much more efficient and dependable a job coal and the very latest coal-fired equipment can do—call in a competent consulting engineer. He'll recommend the right equipment for your specific needs. Then you'll see exactly why coal *on a performance basis, on a dollars-and-cents basis* . . . is your best fuel buy, by far!

BITUMINOUS COAL INSTITUTE
A Department of National Coal Association, Washington, D. C.

FOR HIGH EFFICIENCY FOR LOW COST

YOU CAN COUNT ON COAL!



25" / 32

of Solid Beauty

■ Here's beauty that's not just "skin deep." Bruce Blocks are made of solid hardwood strips, 25/32" thick. Even after many years of hardest wear, this floor can be refinished to look just like new. Its beauty never wears off, its natural colors never fade. And the smart, functional design of a Bruce Block Floor will match even the most modern interior.

Bruce Blocks are ideal for all types of construction . . . can be laid in mastic over concrete slab or blind-nailed over wood subfloor. They are available unfinished or finished at the factory. To save time and money and to give owners a superior finish, specify *Prefinished* Bruce Blocks . . . ready to use as soon as laid. See our catalog in Sweet's File. Write us for booklet with room photos in color.

BRUCE

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Hardwood Floors

PRODUCT OF E. L. BRUCE CO., MEMPHIS 1, TENN.

World's largest maker of hardwood floors

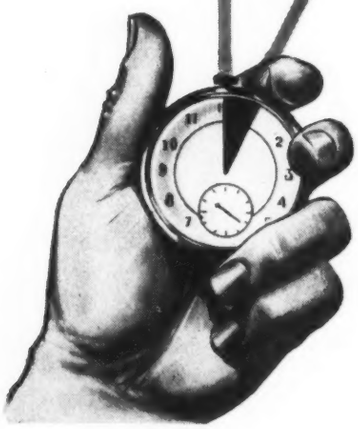
Time-Proven Choice

for schools . . . for hospitals!



five minutes to install

. . . Years of trouble-free service



It has been proven in time tests and confirmed through the years, that it takes an average workman only five minutes to install a factory-assembled Corbin Unit Lock. That's faster than any other type of lock! The economy of this labor saving, coupled with their handsome appearance, quiet operation and rugged security, make Corbin "900" ideal for installation in hospitals and schools.

Corbin Unit Locks can be master-keyed with other Corbin cylinder locks. They are made in functions and finishes to meet every normal hospital or school need.

Specify Corbin "900" Unit Locks. For long service, for fast application . . . it's the time-tested choice.

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The American Hardware Corporation
New Britain, Connecticut, U.S.A.

GOOD BUILDINGS DESERVE GOOD HARDWARE

CORBIN

NOT YET PAINTED

but . . . SAFE!



NEW Crawford Magi-Cote PROCESS

seals all surfaces (*including those not usually painted*) against moisture, fungus, molds, dry-rot, insects, etc.

EACH section of each Crawford-built door (east of the Rockies) now undergoes a 3-minute Magi-Cote Process immersion in colorless liquid chemical seal which closes wood pores to all destructive elements.

Magi-Cote penetration is such that a 10′ x 10′ door drinks up five quarts of liquid. Sections are then air dried. Magi-Cote effectively seals all surfaces (including those usually left unpainted) against moisture, fungus, molds, dry-rot, insects, etc. It protects the door against soiling during erection and against moisture while it is waiting for whatever finish is to be applied. Because it controls the porosity of the wood, it is an excellent base for varnish or paint, and gives these finishes superior stand-out and durability because their binders are not absorbed but stay where they belong, in the material, on the surface.

When you specify Crawford-built doors (Marvel-Lift, Fleetwood, Stylist or Doormaster, all sizes, all models, east of the Rockies) your client gets Magi-Cote Process protection as standard.

A sample of Magi-Cote treated wood is yours for the asking.

"Standard of the Industry"



CRAWFORD DOOR COMPANY

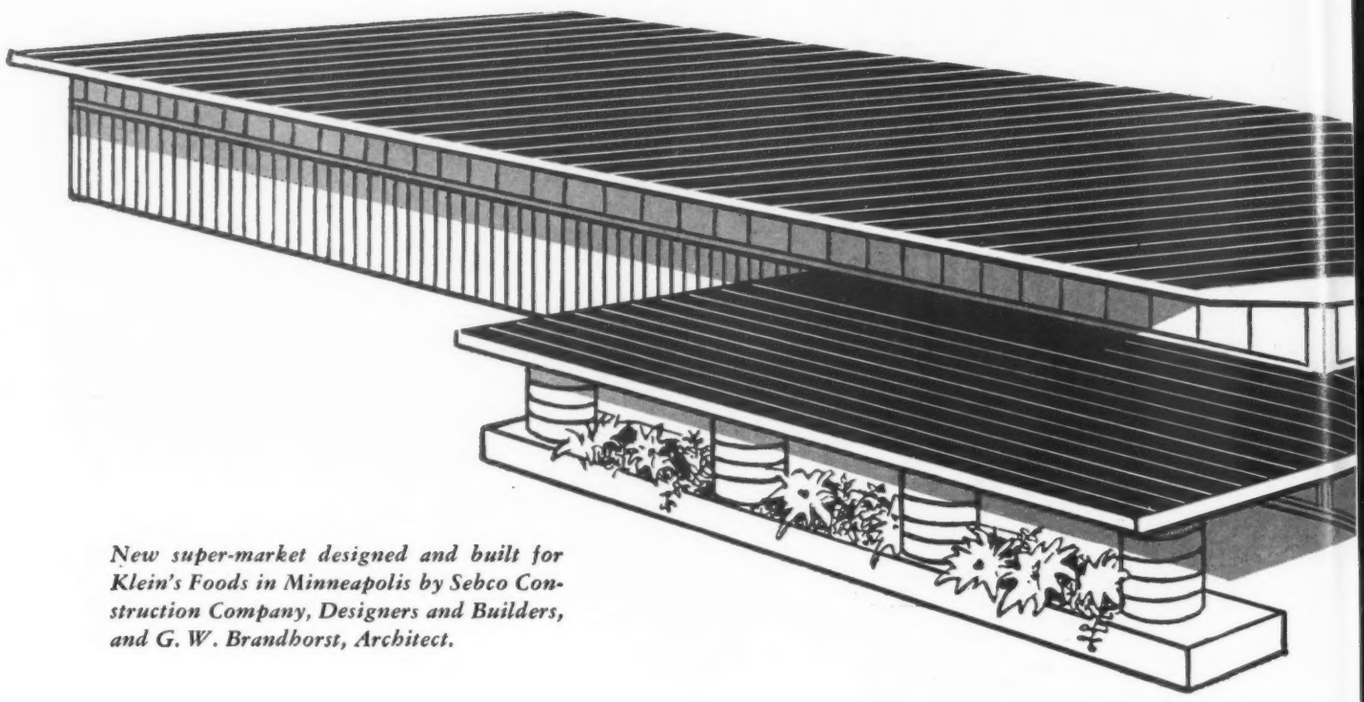
Main Plant: 83-401 St. Jean Ave., Detroit 14, Michigan

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A ROOF THAT'S A CEILING



New super-market designed and built for Klein's Foods in Minneapolis by Sebco Construction Company, Designers and Builders, and G. W. Brandhorst, Architect.

Here a Wheeling representative takes a close-up look at fixtures, fastened directly to roof structure.



Sense of perspective and depth is enhanced by parallel lines of roof deck, serving both as roof and ceiling.

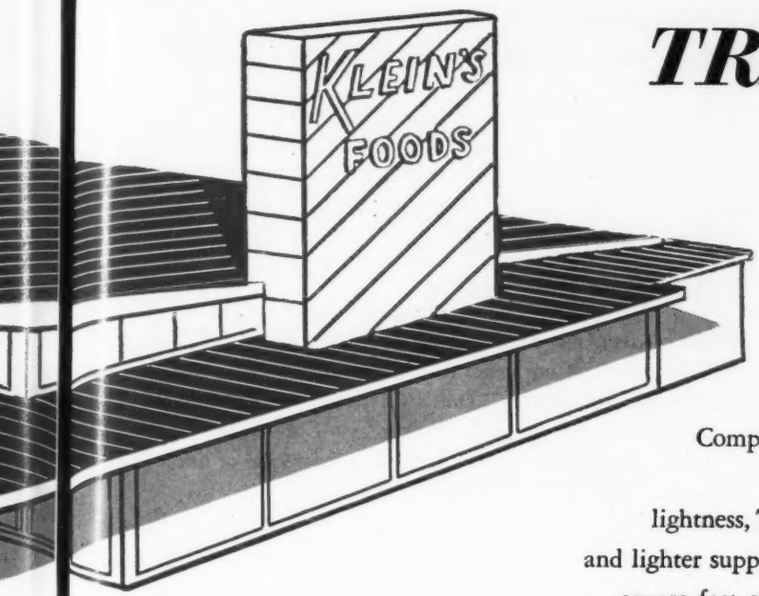


Tri-Rib Roof Deck is but one of many Building Materials for which Architects and Builders turn to Wheeling. The Wheeling line of building materials includes:
Steelcrete Reinforcing Mesh • Expanded Metal • Metal Lath and Metal Lath Accessories • Tri-Rib Steel Roof Deck • ExM Angle Frame Partitions • ExM Vault Reinforcing to meet #10 Insurance Classification

WHEELING CORRUGATING COMPANY · BUILDING MATERIAL DIVISION

ATLANTA BOSTON . BUFFALO CHICAGO COLUMBUS DETROIT KANSAS CITY LOUISVILLE MINNEAPOLIS NEW ORLEANS

TOO... IT'S WHEELING TRI-RIB STEEL ROOF DECK!



In this Minneapolis super-market, Sebco Construction Company achieves an unusually "wide-open" interior, made possible through use of Wheeling Tri-Rib Roof Deck. Because of its lightness, Tri-Rib allowed use of longer span joists, lighter roof structure and lighter supporting members—a saving of 25 lbs. of supports for each 100 square feet of deck! Taking advantage of Tri-Rib's pleasing appearance, the designers omitted underfinish, permitting the deck sheets themselves to form the "ceiling." The long parallel lines of the ribs thus add to the perspective and sense of space.

Spaciousness of interior is clearly seen here, with minimum of columns—even those of lightest weight.





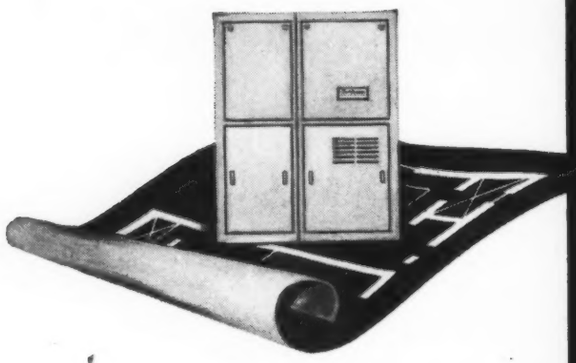
Wheeling

WHEELING, WEST VIRGINIA

NEW YORK · PHILADELPHIA · RICHMOND · ST. LOUIS

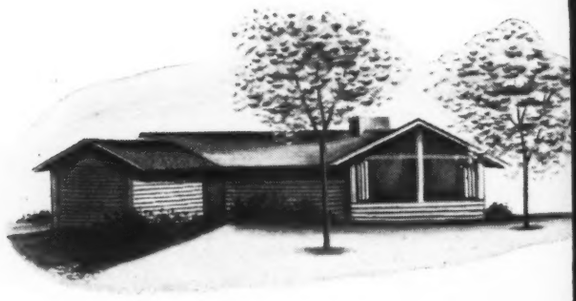
How would you do it?

If you were commissioned to design a house around air conditioning, would the air conditioning affect your design?



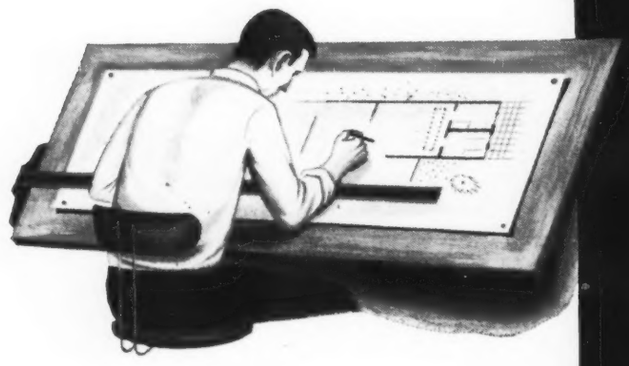
We think it would

We've seen air conditioning at work before. We've seen it revolutionize the textile industry, we've seen it redesign skyscrapers. That's why, when we developed the new Carrier Weathermaker Air Conditioner for homes, we thought of it in terms of a new kind of home . . . a Weathermaker Home.



We asked around

We asked architects . . . and we asked builders. And they told us that a Weathermaker Home could be more compact, that it wouldn't need to use its windows for ventilation, that it would be simple to orientate. They told us that it might cost no more than a conventional home. And that it could be a much better home.



What do you think?

What do you think? How would you design a Weathermaker Home? Would it be all-glass or no-glass? Would it take its cue from the compass or blithely ignore the compass to face a view? We'd be glad to send you a book we've had written on the idea — and the facts on the Weathermaker Air Conditioner.

CARRIER CORPORATION
312 S. Geddes Street, Syracuse 1, N. Y.

Please send me "How to Have a Carrier Weathermaker Home."

Name _____

Street _____

City _____ *State* _____

Carrier

AIR CONDITIONING • REFRIGERATION

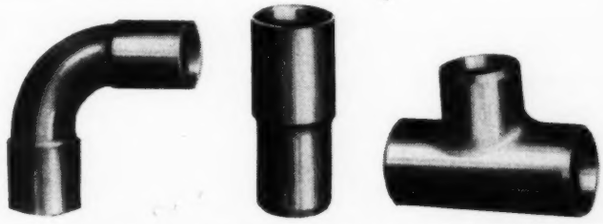
look! ...it must be a *Streamline*® fitting!



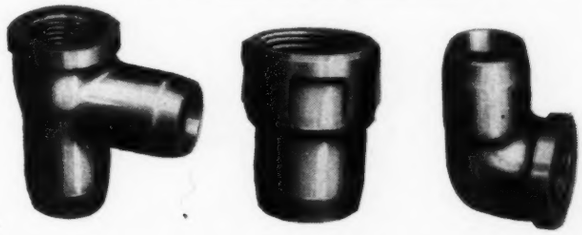
Streamline® solder type fittings are really made to last . . . and they'll make a neater, quicker installation

If Cleopatra's plumber had used STREAMLINE fittings we wouldn't be surprised if they would still be in pretty serviceable condition today. For STREAMLINE solder type fittings are really made to last. They cannot rust, they're not loosened by vibration and they're virtually free from clogging. STREAMLINE fittings assure a snug-fitting, tightly joined system that tests leak-proof on the first try and doesn't develop leaks later. When you install STREAMLINE fittings, you can be sure you're installing a permanently reliable conducting system whether for plumbing, heating, air conditioning or industrial use.

And here's something else . . . because of their design, precision manufacture and accurate dimensions, STREAMLINE solder type fittings can be installed quickly and the uniform depth of the solder joints makes it easy to compute the exact length of tubing needed. Thus STREAMLINE fittings not only assure a permanent installation, they also reduce job cost and increase the number of installations a contractor can handle.



STREAMLINE wrought and cast fittings are available in a complete range of standard sizes.





See your jobber for further information or write for catalogs S-351 and W-251 describing our complete line of STREAMLINE wrought copper and cast bronze fittings.

65

MUELLER BRASS CO. STREAMLINE PRODUCTS

MUELLER BRASS CO. PORT HURON 7, MICHIGAN

a design study for The Mosaic Tile Company to illustrate uses for ceramic tile in an automobile showroom

by Victor Gruen, A.I.A.
8640 Santa Monica Boulevard
Hollywood, California



Yesterday, ceramic tile was but a *bit* player on the automotive stage! Today, ceramic tile can be the "Star of the Showroom" . . . play a major sales role in present and future automobile merchandising plans.

Why? Simply because Mosaic Tile gives an amazing combination of beauty, color, permanence and "rock-bottom" maintenance expense . . . plus that much sought-after atmosphere of quality and prestige!

Models change . . . but Mosaic Tile — never! It's a hard-as-nails material with qualities of permanence and low-maintenance ideally suited for walls and floors in sales, service, maintenance and lubritorium areas. The smooth, pit-and-pore free surface of Mosaic Tile resists the penetration of dirt and grease . . . is easily cleaned by conventional methods. And, the *first cost* is literally the *last cost,* for Mosaic Tile won't burn, warp, crack or fade —it wears and wears but doesn't wear out!

How Mosaic Tile may assume a star's role in the automotive field is revealed by this design study, made by Victor Gruen, A. I. A., Hollywood, California.

The results, including sketches and floor plan, have been incorporated into a six-page, full-color folder which is available to you now. For details on how to receive your *free* copy, see the adjoining page!

Send for this folder TODAY!

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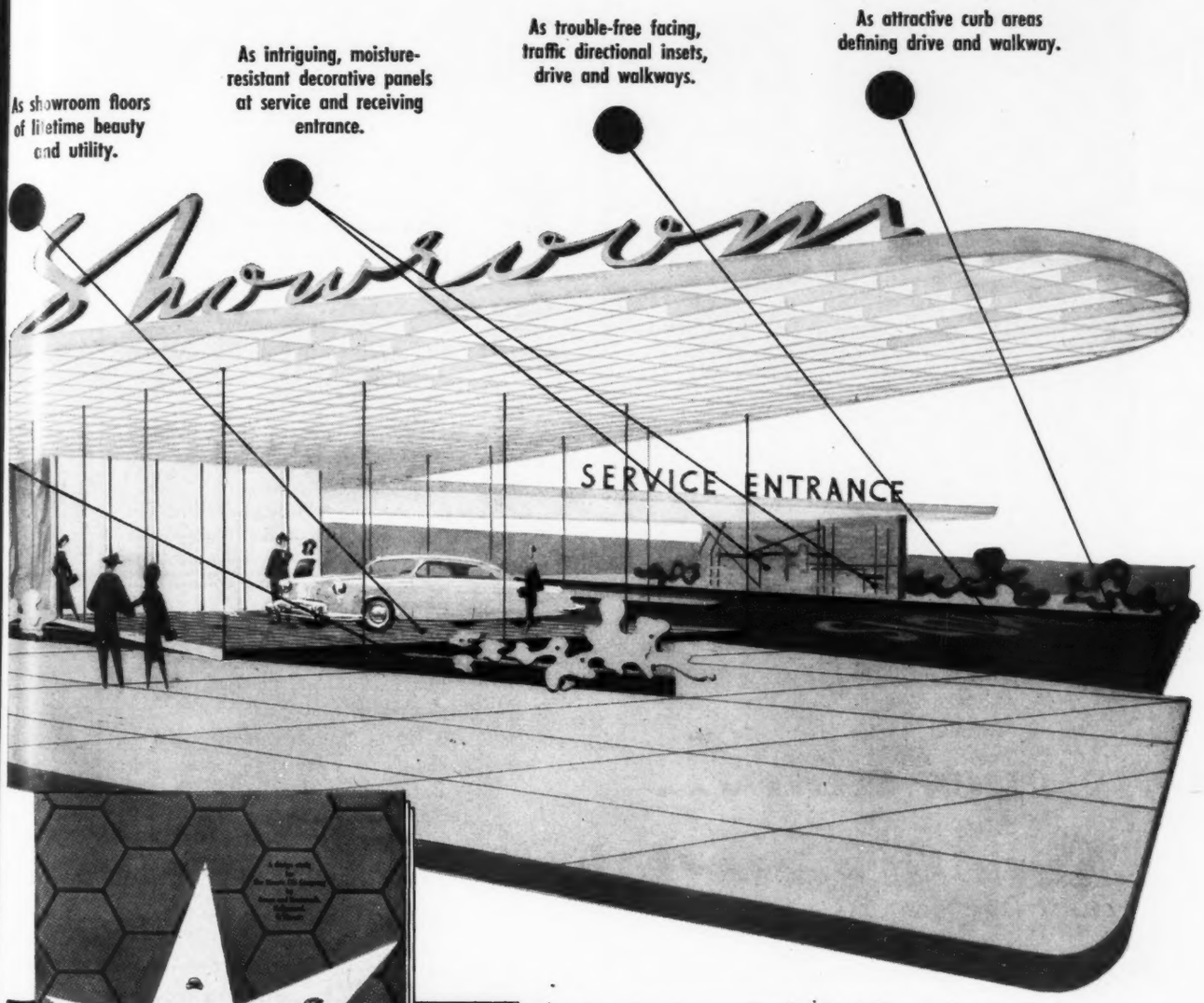
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780 Ponce de Leon Place
Phone: Elgin 0754

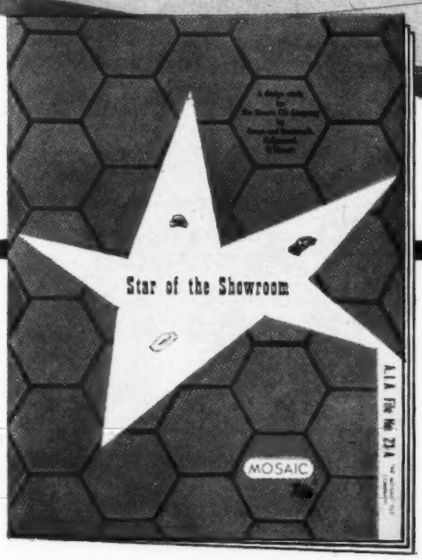
Detroit 34, Michigan
20230 Sherwood
Phone: Twinbrook 3-1254

Boston, Massachusetts
384 Main Street, Waltham 54
Phone: Waltham 5-7292 & 5-7202

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Areas where Mosaic Tile performs a major selling and service job in a truly-modern automobile showroom!





There's a place in your files for this folder; a place in all of your building and remodeling plans for Mosaic Tile. A letter on your business stationery will bring you a copy of this idea-inspiring folder free of charge. Write Dept. 30-7, The Mosaic Tile Company, Zanesville, Ohio. Contact any Mosaic office shown here for information on the many types of Mosaic Tile.

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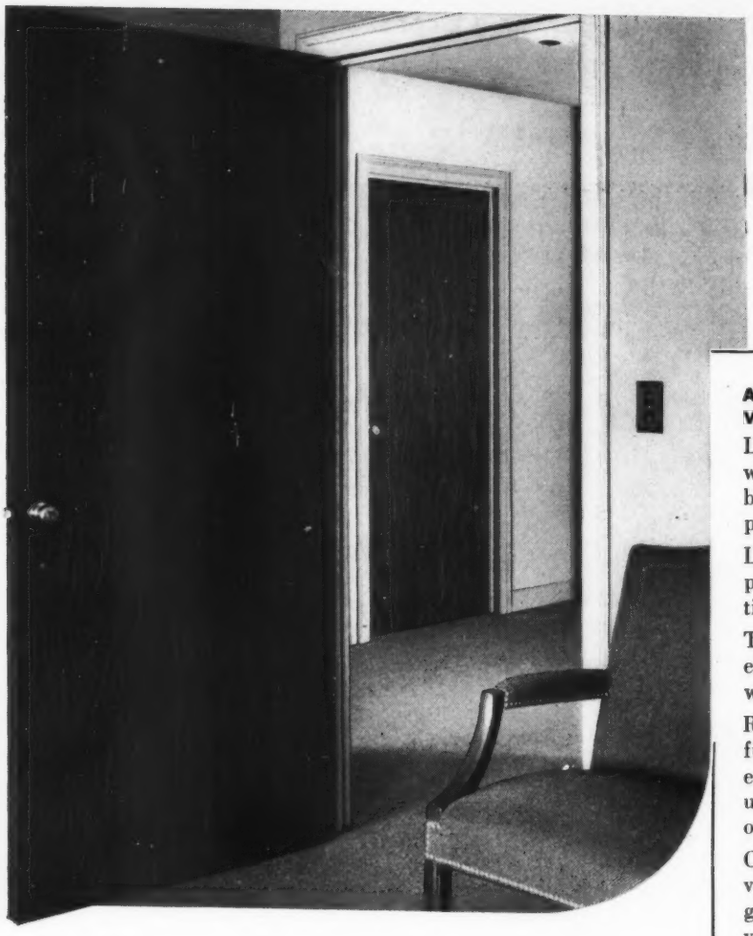
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Beautiful Weldwood Fire Doors, in the offices of Arthur Andersen and Co., New York City.

Architects: George B. Post and Sons.

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Like Weldwood Fire Doors, Weldwood Partition Panels have all the beauty of luxurious wood . . . offer positive protection against fire.

Like Weldwood Fire Doors, these partition panels have the incombustible Kaylo* Core.

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*Reg. Trade-mark Owens-Illinois Glass Co.

Opens eyes wide . . .
Shuts fire off tight!

One glance can tell you more than a bookful of words

. . . about the soft, luxurious beauty of the Weldwood Fire Door

. . . and the warm, welcoming atmosphere it imparts to a reception room or office.

But you can *take our word* for THIS: Weldwood Fire Doors have much more than *appearance* on their side!

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The secret of this great protective quality lies in the door's unique construction. Choicest domestic and imported wood veneers are bonded to an incombustible mineral core — winning for the Weldwood Fire Door the Underwriters' Label for Class B & C openings.

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WELDWOOD® FLUSH DOORS

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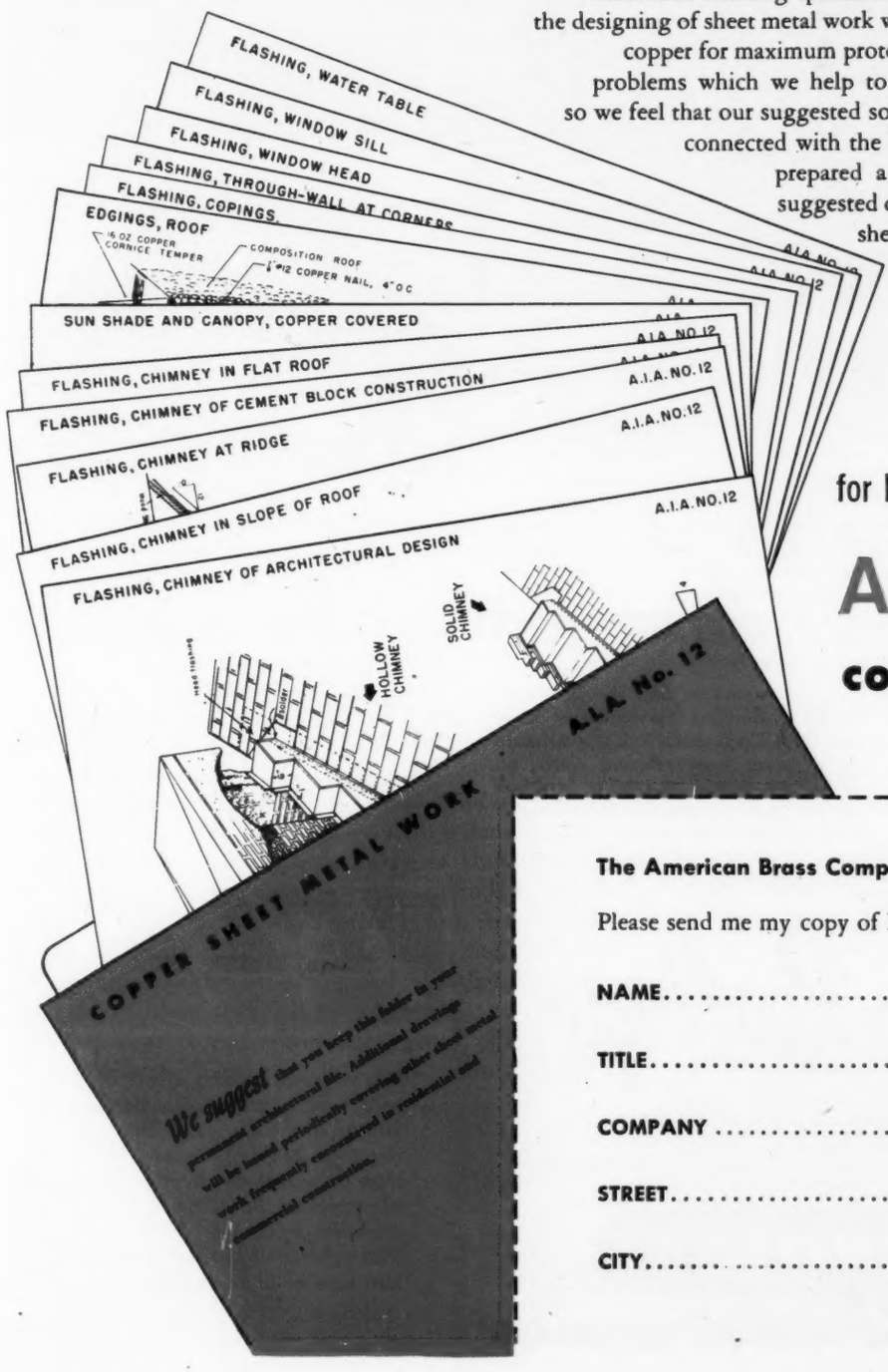
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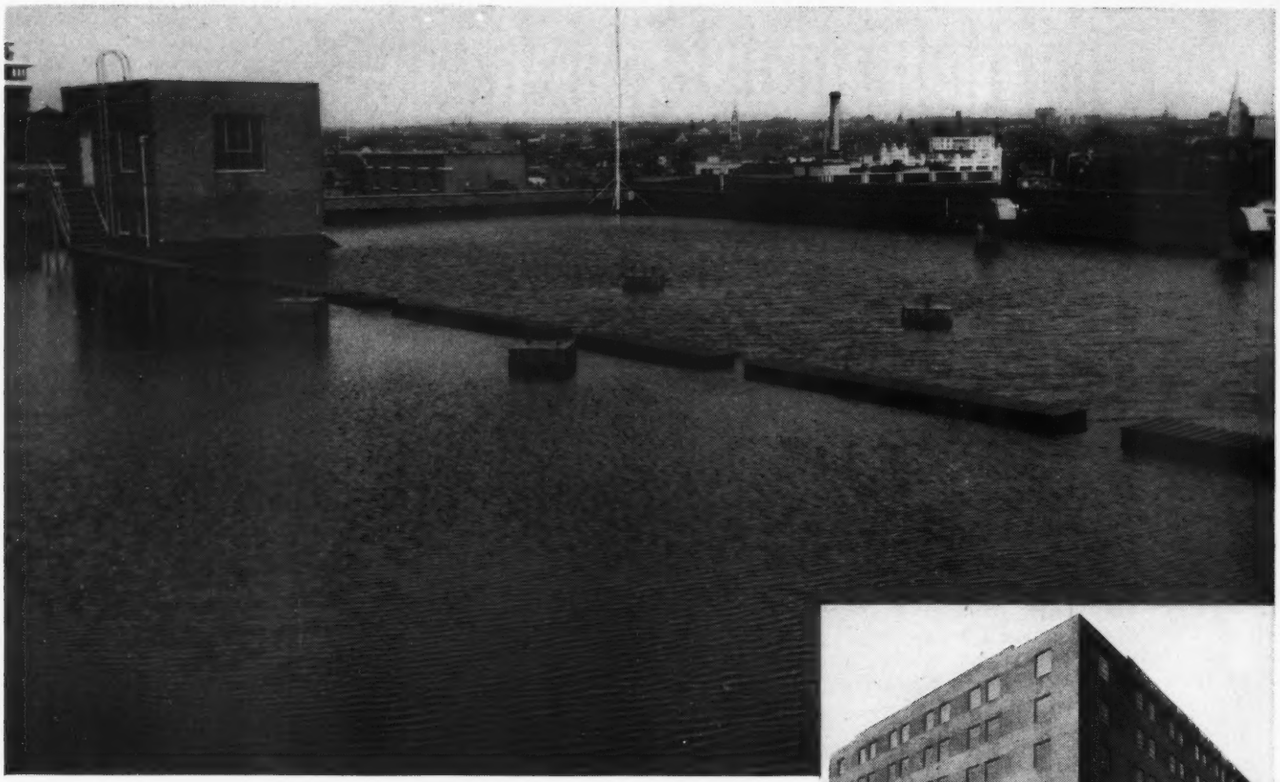
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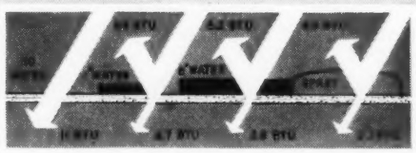
You are bound to find the Ruberoid Built-Up Roofing Specification Book and Built-Up Roof Selector invaluable in planning more efficient roofs, no matter what type of roofing problem you may have. If you don't have these aids, write on your letterhead for your free copies. The Ruberoid Co., 500 Fifth Ave., New York 18, N. Y.

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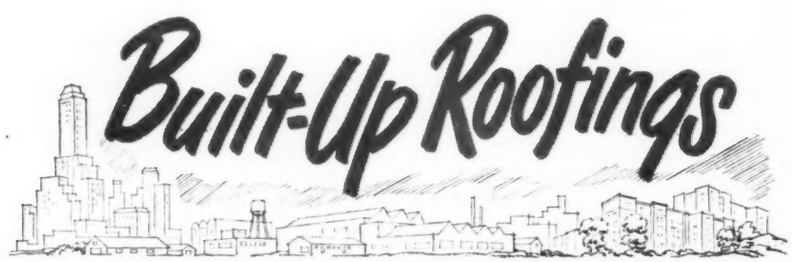
Architects:
—Abbott-Merkt,
New York, N. Y.
—James R. Edmonds, Assoc.,
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General Contractors:
—Morrow Bros.,
Baltimore, Md.

Applicators:
—John O. White & Sons,
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The relative cooling effect of a roof pool is graphically demonstrated in this diagram. The pool depends primarily upon reflection or water evaporation for effectiveness. Based on controlled scientific tests, the chart shows that water in any form is an excellent barrier to solar radiation.



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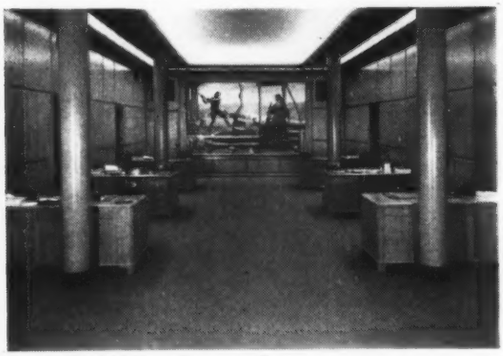
AB CIRCUIT BREAKERS

THE COMPLETE LINE

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Remington Rand, Inc., New York, carpeted the office of A. N. Seares, Vice-President with Goodall *Sampson* in harmonious Taupe.



The Fidelity Trust Company, Pittsburgh, achieves elegance in this office with Goodall *Sampson* . . . the color, Turquoise.



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You'll marvel at the richness, softness, and clarity of Goodall Seamloc's colors. Colors with the subtle variations you need for true decorator beauty. Goodall's Luxuria, Araby, and Sampson qualities come in 22 colors each . . . more than any other wool carpeting. *Every* Goodall quality, of course, comes in a wide range that meets every decorating theme.

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Seamloc is available in many qualities. Your dealer will help you select the one that is exactly right for your particular job.

3. Easier Installation:

Seamloc comes in 4½′ widths to fit rooms of every size with less waste. Special seam construction allows practically invisible seams. Seamloc makes special insertions of design or color possible without custom-weaving. Seamloc can be moved elsewhere . . . re-cut and relaid . . . even cigarette burn repairs scarcely show. And the "welded" seams have a tensile strength of 70 pounds to the square inch . . . 2½ times stronger than sewn seams.

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Goodall Seamloc is *Blended-to-Perform* of selected all wool yarns. That means long wear, greater resilience, greater luxury. Double backing holds the rich pile *in* and *up* . . . allows Seamloc to be washed right on the floor. See any of the dealers listed below . . . get the right Seamloc carpeting for office, store, institution, and housing project installations.

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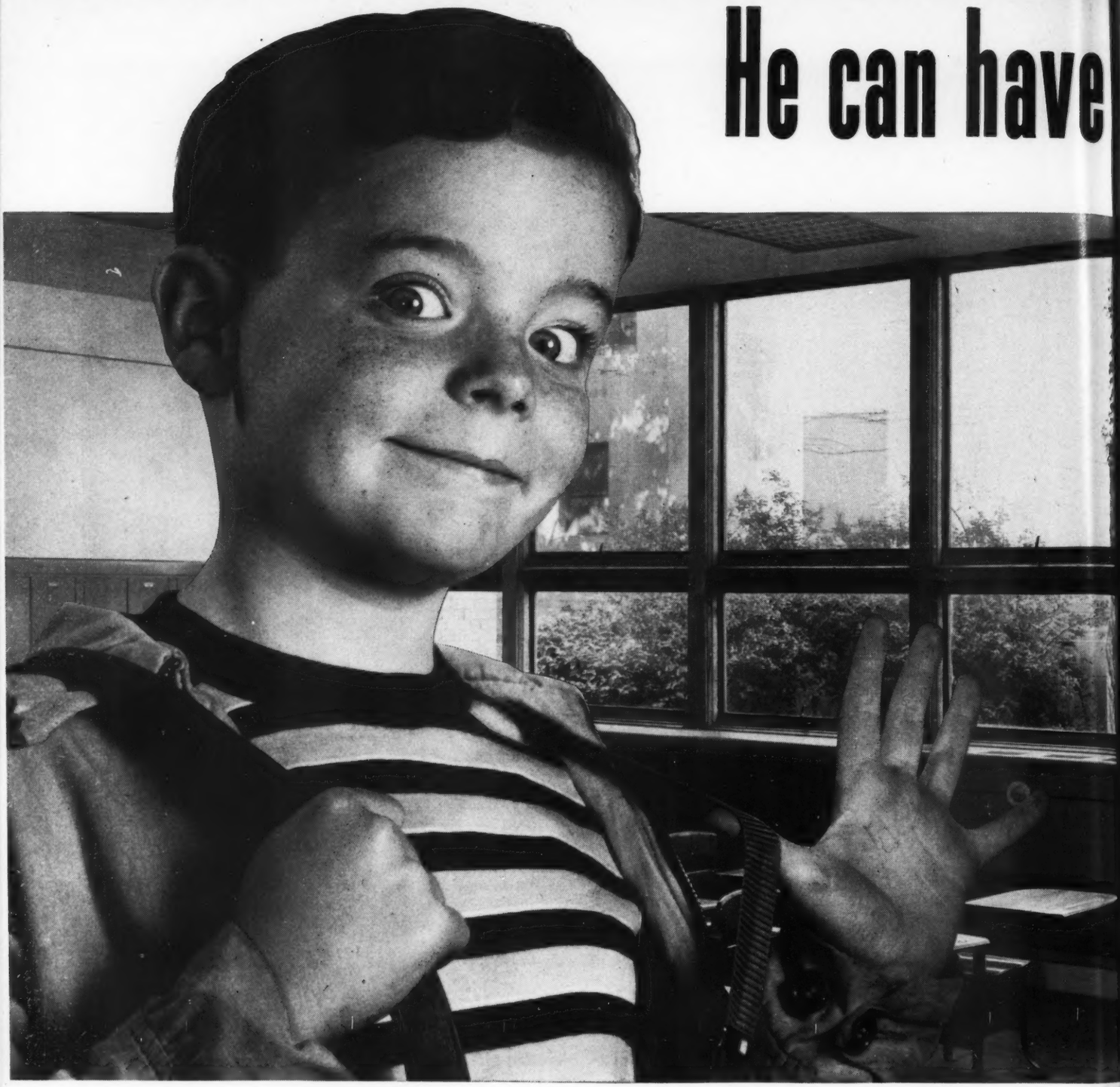
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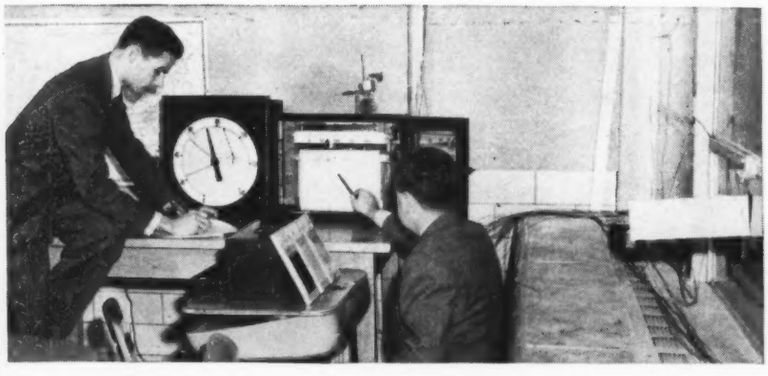
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HERMAN NELSON LEADERSHIP—the result of constant research— Developments from Herman Nelson are the result of exhaustive testing carried on in field laboratory projects using the most modern electronic equipment and progressive methods. Research, not conjecture, evolved DRAFT|STOP—the practical solution to control of drafts and efficient heating and ventilating in the modern classroom.



GERMICIDAL LAMPS NOW AVAILABLE IN DRAFT|STOP.
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Pick out the month you consider ideal for work and study in your section of the country. It's April or May most likely. This same ideal climate is now being brought indoors to schoolrooms year 'round by the Herman Nelson DRAFT|STOP system.

DRAFT|STOP provides an entirely different and superior answer to the heating and ventilation needs of the modern schoolroom. It overcomes the problem of drafts created by large window areas by intercepting the cold air from the windows before it spills into the room. The captured cold air is either drawn into the unit and heated or expelled from the building.

DRAFT|STOP is completely automatic. It introduces outside air only as needed to satisfy *true* ventilation requirements of the room. It tempers the outside air before circulating it; it re-circulates a portion of the room air so there is no necessity of heating a constant flow of outside air.

DRAFT|STOP also provides *cooling action* when needed by drawing in enough outside air to reduce temperatures to proper levels.

By providing the proper heating, cooling and ventilation *without* drafts Herman Nelson DRAFT|STOP creates the perfect indoor climate for work and study. It should be part of your plans for a new school building or a modernization program. For further information write Dept. AR-2, Herman Nelson Division, American Air Filter Company, Inc., Moline, Illinois.



South Ward Elementary School, Lewisburg, Pennsylvania. Supervising Principal, Robert E. Beckman; Architect, Malcolm A. Clinger. There is spring climate inside this school year 'round because it's equipped with DRAFT|STOP Unit Ventilators.



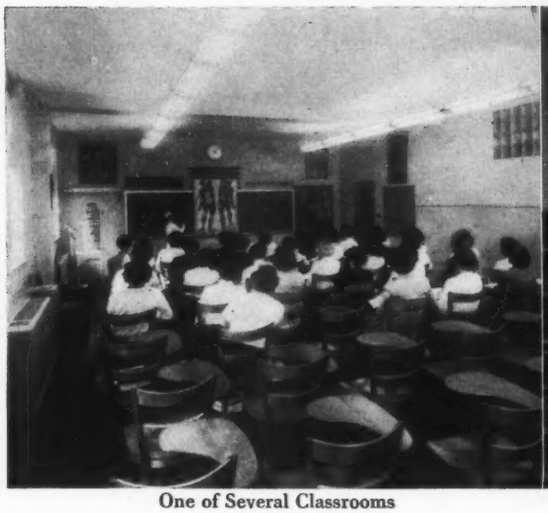
Columbus Boys Academy, Columbus, Ohio. Headmaster, Sumner F. Dennett; Architect, Dan A. Carmichael, Jr.; Consulting Engineer, Robert S. Curl. Newest addition to one of the Midwest's oldest and best known boys' schools is fully equipped with DRAFT|STOP.



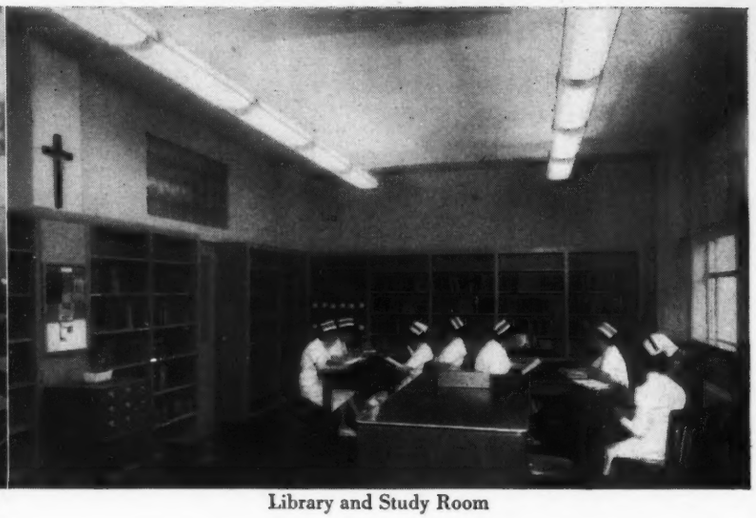
John Laidlaw School, Western Springs, Illinois. Superintendent of Schools, James V. Moon; Architects, Berger, Kelley and Samuelson; Consulting Engineer, Beling Engineering Consultants. Modern equipment for this most modern school includes famous DRAFT|STOP Unit Ventilation equipment.

DRAFT STOP HERMAN NELSON

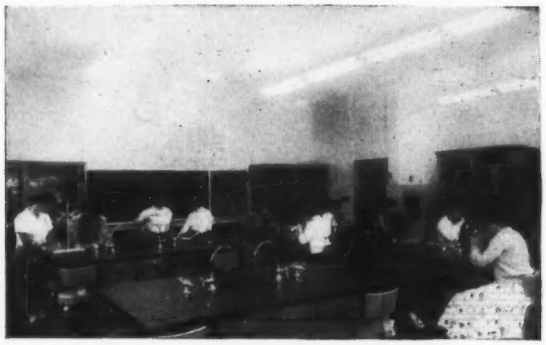
SYSTEM OF CLASSROOM VENTILATION



One of Several Classrooms



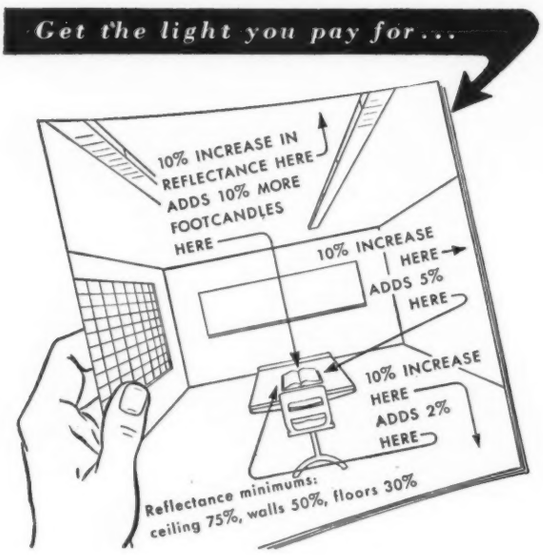
Library and Study Room



Basic Chemistry and Science Laboratory



Nutrition Laboratory



Architect Chooses *Wakefield* Grenadiers for School of Nursing

Hampson and Fisher, architects
Springfield Electric Company, electrical contractor

Soon, up to 165 student nurses will be in training in the new School of Nursing of St. Luke's Hospital in Pittsfield, Massachusetts. In the specialized instruction rooms—fifteen in all—Architect John H. Fisher has provided a comfortable visual environment for study and instruction, using Wakefield two-lamp fluorescent Grenadiers. These photographs show four of the special training rooms, where the nurses will learn dietetics, basic chemistry and hospital nursing practice.

A direct-indirect fluorescent luminaire, the Grenadier provides diffused light from louvers and through the white translucent plastic side-panels. Half of the light is directed upward and reflected from the ceiling. The Grenadier is available in a variety of mountings, and for use with two or four bi-pin or slimline lamps.

Grenadiers are designed to keep maintenance costs low. All reflecting surfaces are turned downward so that a minimum of dust collects. Dust films can easily be wiped off. For regular maintenance, the louvers and side panels can be quickly removed.

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Wakefield

Over-ALL Lighting

BASIC FOR CO-ORDINATED CLASSROOMS



THE COMMODORE



THE STAR



THE WAKEFIELD CEILING





Girls' Washroom, Standard Pressed Steel Co., Jenkintown, Pa.

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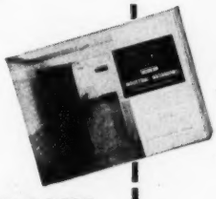
Booklet Shows You How to RAISE *MORALE* and LOWER *MAINTENANCE COSTS*

Among the major sources of personnel gripes are unsightly and outmoded washrooms—and their costs in janitor service and maintenance expenses are high.

American-Olean's new 20-page full color booklet gives you the full story on how to cut out refinishing and repainting expenses . . . how you can help your client slash janitor costs to the bone. And it explains why clean, colorful American-Olean tile installations boost workers' morale and help eliminate one of labor's four major complaints against management.

It's the only book of its kind! Page after page of color photographs of actual installations, with specifications. Send for your file-size copy today.

Send for your copy of this booklet today.



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Gentlemen:
Please send me my free copy of Booklet 300, Modern Industrial Washrooms.

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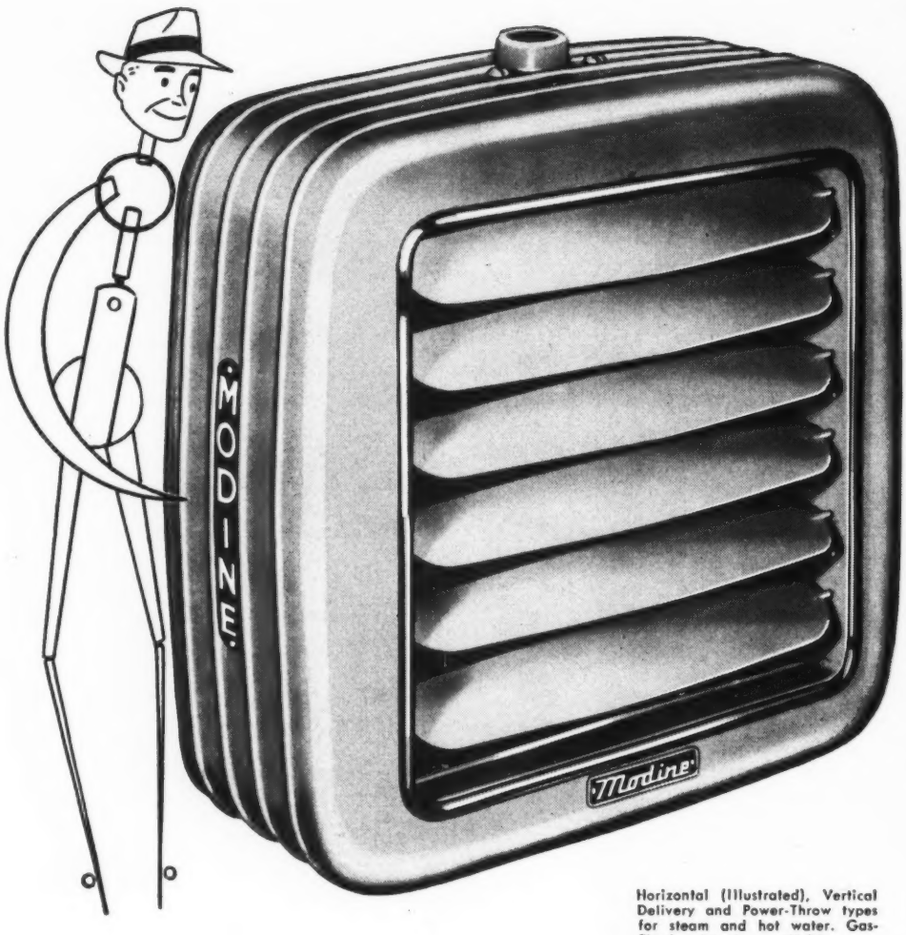
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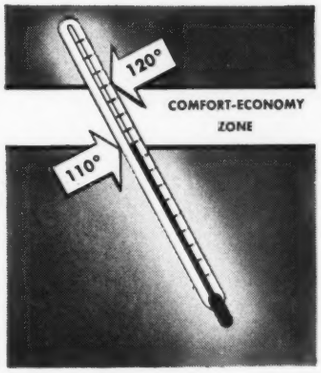
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ENGINEERS RATE MODINE THE STANDARD OF EXCELLENCE

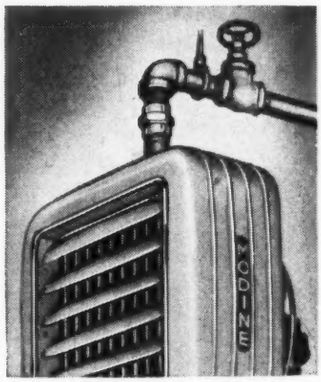
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Horizontal (Illustrated), Vertical Delivery and Power-Throw types for steam and hot water. Gas-Fired units also available.



Discharge air temperatures of 110° -120° F are correctly related to air velocities — assure perfect heating comfort, lower fuel costs.



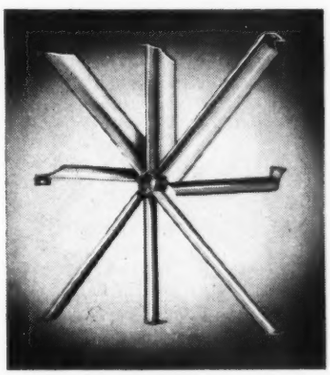
Direct-from-pipe suspension is safe and economical, with no hanger-rods. Heated air stream may be easily redirected over full 360°.

for comfort and economy Modine Unit Heaters top the field

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Write for Bulletin 149-A, "Modine Unit Heating." Or contact your Modine representative listed in your classified phone book.



Built-in velocity generator effectively steps up heat throw. This assures positive heat penetration of cold air strata near the floor.

Modine UNIT HEATERS

U-1133



Stopping Rust with RUST-OLEUM 769 D.P. Red Primer

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SEE OUR CATALOG IN SWEET'S

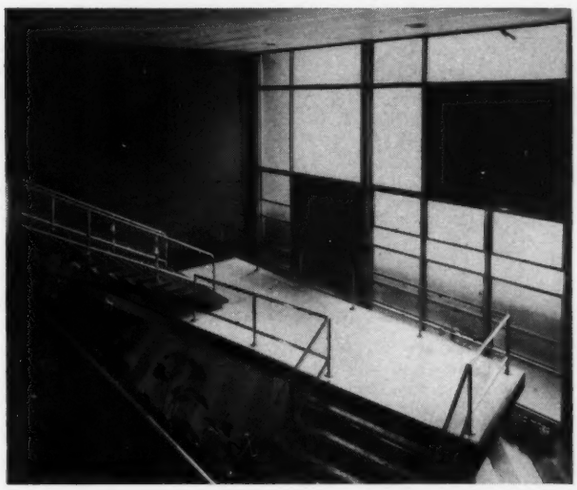
How American architects are utilizing



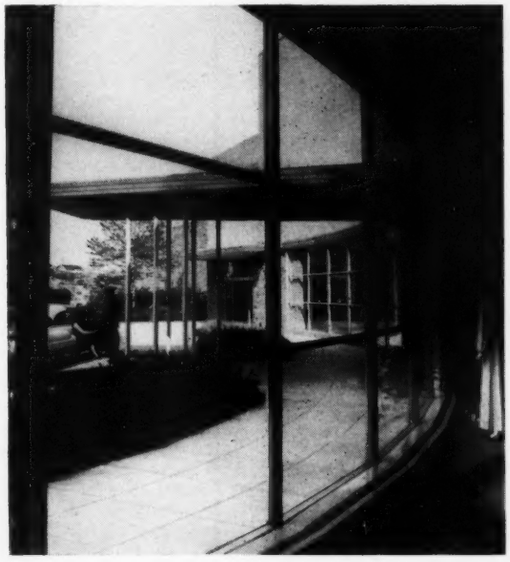
Pittsburgh Glass in heavy construction



CONTRIBUTING to the over-all distinctive appearance of the new Drayton Arms Apartments in Savannah, Georgia, is the ample use of Pittsburgh Products. Windows are glazed with Solex Heat Absorbing Plate Glass—"the best glass under the sun"—to keep rooms ten to twenty degrees cooler. The soft greenish coloring of Solex, while almost unnoticeable when looking through the glass from inside, acts as a wonderful guard against eyestrain from glare of bright sunlight. Pittsburgh Doorways, Polished Plate Glass, Pittco De Luxe and Premier Metal help to create an open-vision lobby, and Pittsburgh Mirrors are used in every room. Architects: Cletus W. and W. P. Bergen, Savannah, Ga.

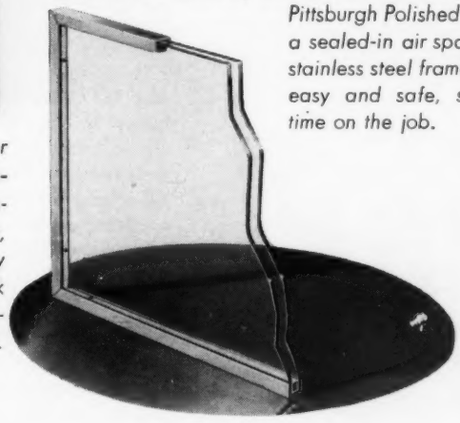


THIS STAIRWAY of a remodeled office building in Charlotte, N. C., shows the application of 1/4" Herculite Polished Plate Glass on the stair rails. The first floor of this building features large expanses of Pittsburgh Plate Glass. The second floor, which overhangs the first, is glazed with Solex Heat Absorbing Plate Glass. Other glass products used here include Herculite Doors, Pittco Premier Store Front Metal, Pittsburgh Mirrors in the washrooms Architects: A. G. Odell, Jr. & Associates, Charlotte, N. C.



ALL EXTERIOR GLAZING at the new John Wanamaker department store at Wilmington, Del., with the exception of the display windows, utilizes Twindow, Pittsburgh's window with built-in insulation. Additionally, 2700 sq. ft. of Pittsburgh Polished Plate Glass, ninety Herculite Doors and 1/4" Pittsburgh Copper-Back Mirrors are effectively used in this most appealing structure. Architects: Massena & du Pont, Wilmington, Del.

TWINDOW® permits designing large window areas, without sacrificing heating or air-conditioning efficiency. That means abundant daylighting, with interior comfort. Twindow, as shown in the cutaway section here, consists of two panes of Pittsburgh Polished Plate Glass, with a sealed-in air space between. The stainless steel frame makes handling easy and safe, saves installation time on the job.



Design it better with

Pittsburgh Glass

Your Sweet's Catalog File contains detailed information on Pittsburgh Plate Glass Company products.

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PITTSBURGH PLATE GLASS COMPANY

American Blower... a time-honored name in air handling

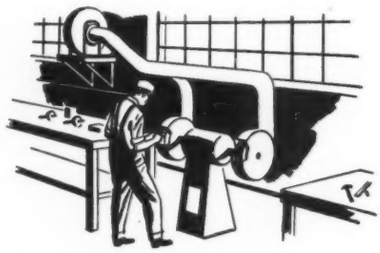


Charleston, W. Va., has a conveniently located American Blower Branch Office to provide you with data and equipment for air handling. You can reach American Blower in Charleston by calling 61-331. In other cities consult your phone book.



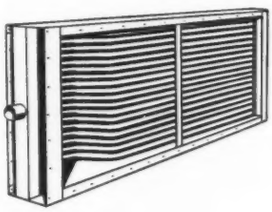
EMPLOYEE COMFORT

Fresh, invigorating air, indoors, does much to increase employee morale and efficiency. American Blower Ventura Fans are ideal for the job. They're attractively streamlined propeller fans with smooth-flowing lines that harmonize well with modern business interiors. Wiring is fully enclosed for safety. A square mounting panel makes them easy to install. All Ventura Fans are sound-rated and capacities are Certified.



ABRASIVE MATERIALS

If you've found dust from grinding machine operations hard to handle, American Blower Type V Fans are well worth investigating. The heavy cast-iron housing of Type V fans easily withstands the wear of hard, gritty, abrasive materials. Also, their volume and pressure range is more than adequate to handle the normal requirements of this type of work. Remember, good ventilation is good business.

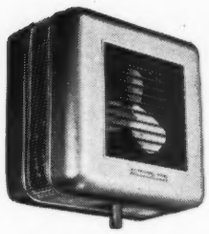


HEATING COILS

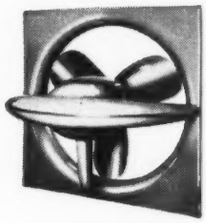
Current demands for heating from business and industry are greater now than ever before – a good reason to take early action on American Blower Heating Coils. Whether you need coils for use in blast heating or zone reheating – you'll find the size and type to fit your needs in the American Blower line. All tubing is helically wound with copper or aluminum fins in 3 standard spacings. Casings are heavy galvanized steel; headers are die-formed steel.

YOUR BUSINESS

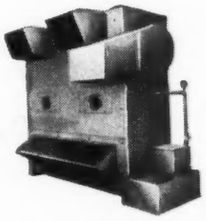
Whatever your needs, American Blower heating, cooling, drying, air conditioning and air handling equipment will improve over-all comfort and efficiency in your business. For data, phone or write our nearest branch office.



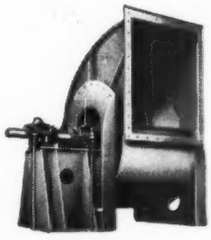
Unit Heaters



Ventura Fans



Air Conditioning Equipment



Industrial Fans

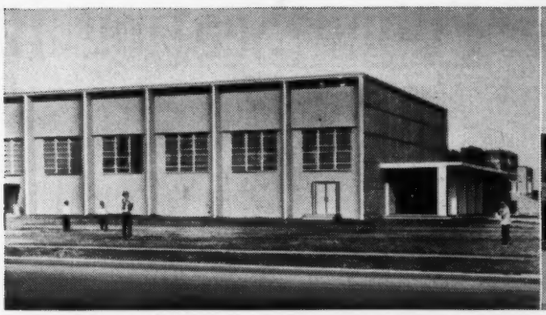


Utility Sets

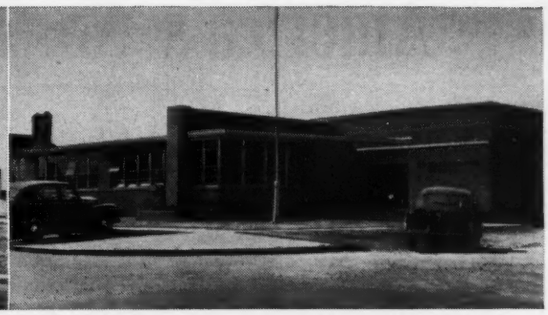
AMERICAN BLOWER CORPORATION, DETROIT 32, MICHIGAN
CANADIAN SIROCCO COMPANY, LTD., WINDSOR, ONTARIO
Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION

YOUR BEST BUY AMERICAN BLOWER AIR HANDLING EQUIPMENT

Serving home and industry: AMERICAN-STANDARD • AMERICAN BLOWER • ACME CABINETS • CHURCH SEATS • DETROIT LUBRICATOR • KEWANEE BOILERS • ROSS HEATER • TONAWANDA IRON



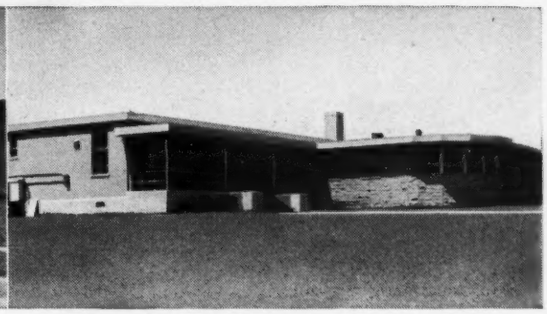
Benjamin K. Wyatt, architect, specified Stran-Steel Framing in the construction of Robstown High School Gym, Robstown, Texas.



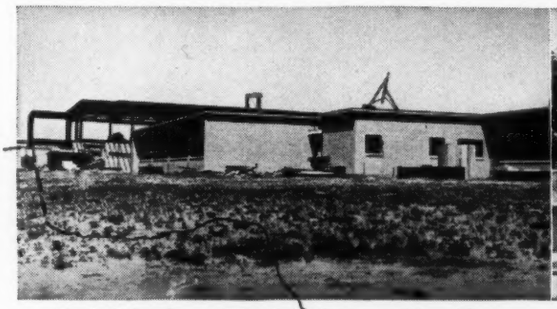
Stran-Steel Framing was used in walls, roof and partitions in the St. Elizabeth School, Alice, Texas. Wade, Gibson & Martin, architects.



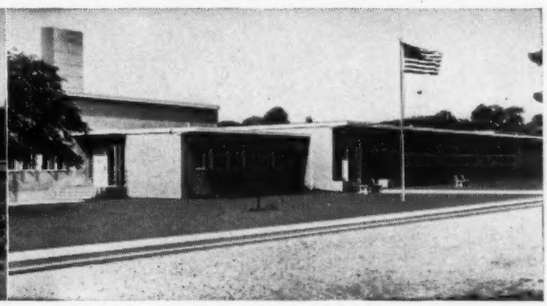
In San Antonio, the Esther Perez Carvajal School is constructed of Stran-Steel Framing. Percy W. and J. Clyde Williams, architects.



The James Madison Elementary School, San Antonio, Texas, is built around Stran-Steel Framing. Phelps, Dewees & Simmons, architects.



Roof of the George West School, George West, Texas, is constructed of Stran-Steel Framing. Wade, Gibson & Martin, architects.



The W. J. Knox Elementary School, San Antonio, is another example of widespread use of Stran-Steel Framing. Benjamin K. Wyatt, architect.

YOU NAIL TO STRAN-STEEL FRAMING

STRAN-STEEL
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For Texas schools, too, architects are specifying

STRAN-STEEL FRAMING

What school architects like about Stran-Steel floor joists and framing members can be summed up briefly: adaptability to modern design, rigidity, nailability, economy in application of collateral materials and erection time, incombustibility.

The Texas school buildings pictured here are typical of the successful use of Stran-Steel Framing in schools, factories and multiple-type dwellings throughout the country. You owe it to your client to thoroughly investigate this dollar-saving, time-saving method of construction.

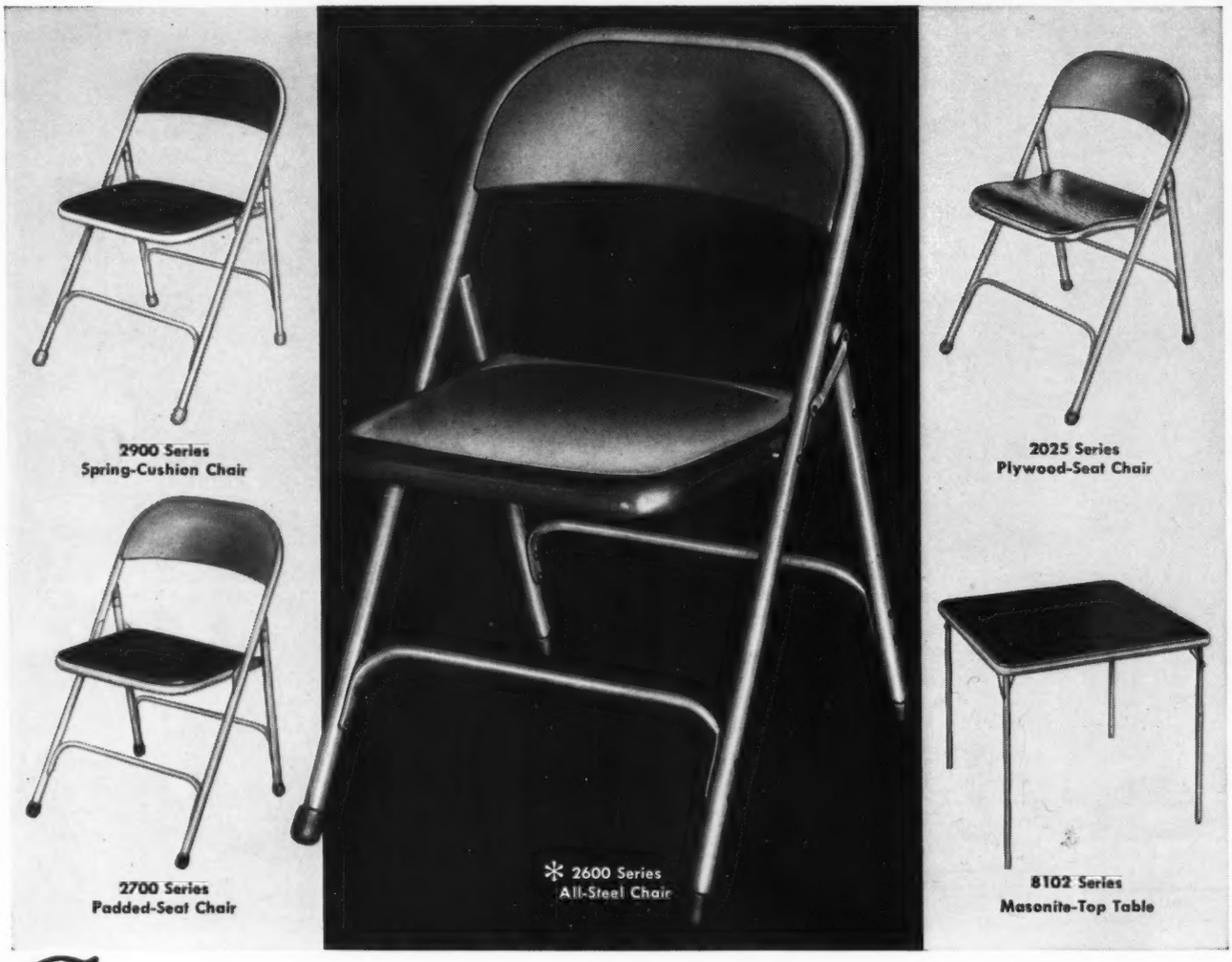
Complete literature and specifications data available on request; or see Sweet's catalog service, architectural $\frac{3c}{Gr}$ *and building* $\frac{3a}{Gr}$ *files.*

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Stran-Steel Division **Ecorse, Detroit 29, Mich.**

PRODUCER OF NAX HIGH-TENSILE STEEL

NATIONAL STEEL CORPORATION

America's No. 1 Public Seating Buy!



Samson Folding Chairs

TRY IT FREE—
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● Write us on your letterhead, describing your public seating problem. We will send you, express prepaid, for examination *right in your own office*, the amazing new Samson series 2600 folding chair! No obligation. Special low prices on quantity purchases. Ask your Samson distributor for quotation, or write us direct.

Posture-Designed For Extra Comfort! Steel Construction For Extra Strength! Special Folding Action For Extra Safety!

SAMSON FOLDING CHAIRS are definitely your best public seating buy because they offer you: (1) low cost; (2) long life; (3) real comfort; (4) unsurpassed ease of handling!

***Impartial laboratory tests** by Pittsburgh Testing Laboratories found the Samson 2600 series chair: "Substantial, well-balanced, easily set up or folded, storing in the most compact space, weight uniformly distributed, folding mechanism guards against injury, seat rigidly supports framework, back is properly shaped for comfort."

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United States Navy; Transcontinental World Airlines, Inc.; E. I. DuPont de Nemours & Co.; Denver University Arena; American President Lines; Federal Reserve Bank, *Richmond, Virginia;* National Broadcasting Co., Inc.; Stix, Baer & Fuller Co., *St. Louis, Missouri.*

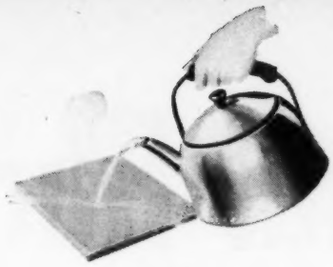
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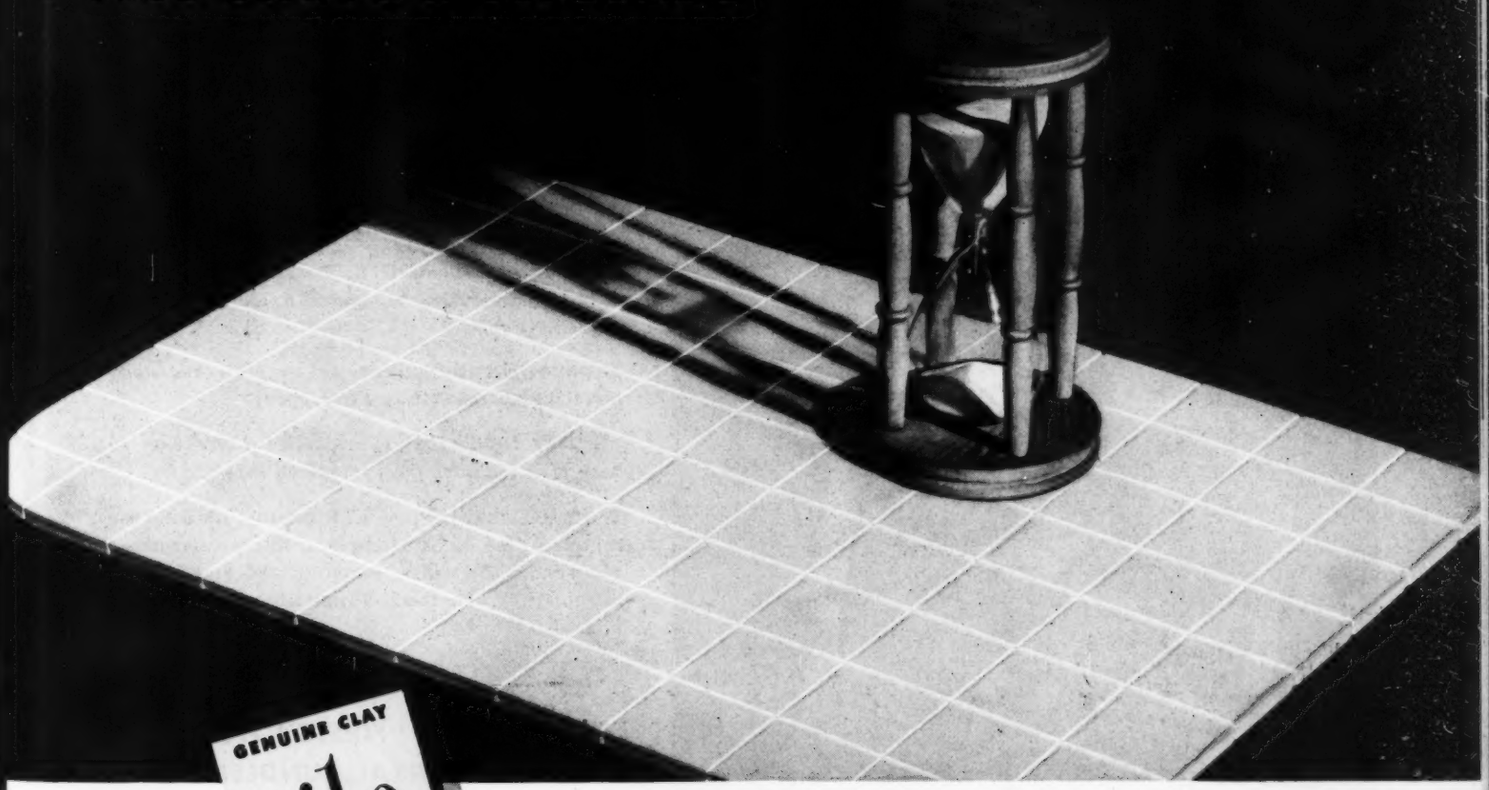


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GENUINE CLAY **tile**

ONLY tile DEFIES ALL SIX!

When you specify Genuine Clay Tile in any installation, you immediately gain two things: (a) a permanent answer to your wall and floor surfacing problems, and (b) substantial long-range economies in maintenance. Consider, too, clay tile's known ability to resist heat, moisture, scratching, fading and staining. Genuine Clay Tile cleans as easily as a china dish and commands respect wherever it is used. Have you considered the use of clay tile lately in the kitchen, utility room, foyer, powder room or recreation room? It is worth a fresh appraisal every time you build or design any type of building. And remember, whether it is for modern or traditional styling, clay tile is one of the most flexible materials you can use in achieving distinctive patterns and color schemes.

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FIRST—with concealed front overflow!

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The World's Finest Bathroom Fixtures

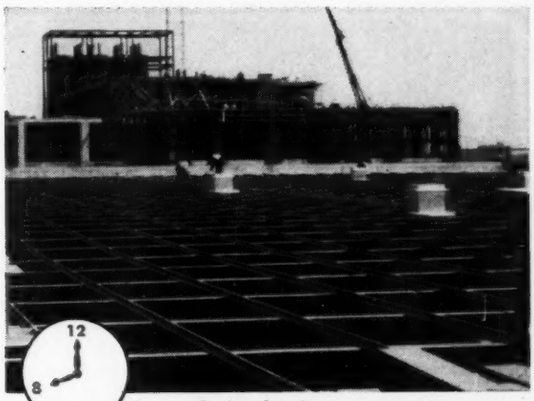
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Plants in Camden, N. J.; Milwaukee, Wisconsin; New Castle, Pennsylvania; Redlands, California; Hondo and San Antonio, Texas

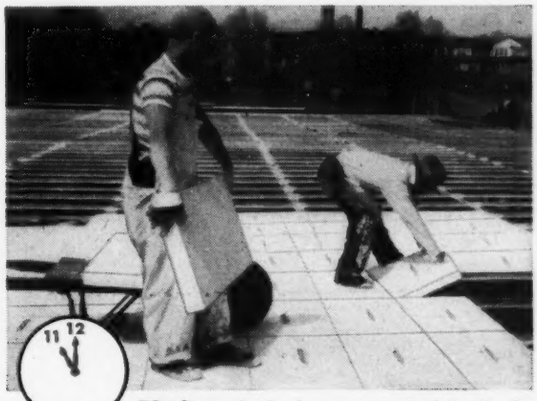
Speed—ON DECK...



15,000 square feet of roof completed in *8* hours with Kaylo Insulating Roof Tile



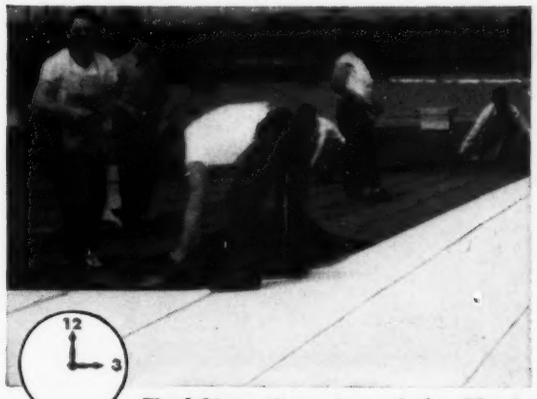
As work-day begins, steel sub-purlins are ready for the roof deck of Kaylo Insulating Roof Tile. Lightweight Kaylo Tile (only 5 lbs. per sq. ft.) permits the use of lighter and more economical structural members and foundations.



Placing of tile begun at 8 o'clock, is well under way by mid-morning. Kaylo Roof Tile—a hydrous calcium silicate, *not glass*—has billions of sub-microscopic air spaces giving it light weight and low thermal conductivity.



Grouting of end joints, including cleaning off excess grout, begun shortly after first tile were placed, is almost finished. Kaylo roof deck is incombustible; has more than adequate strength for typical roof loads.



Final Step. Covering of the Kaylo roof deck with conventional built-up roofing materials was started as soon as the first section had been grouted. By 4:30, 15,000 sq. ft. of roof has been finished in an eight-hour work-day.

For complete details on Kaylo Insulating Roof Tile, write Dept. N-211, Owens-Illinois Glass Company, Kaylo Division, Toledo 1, Ohio.

see our CATALOG in SWEET'S FILE

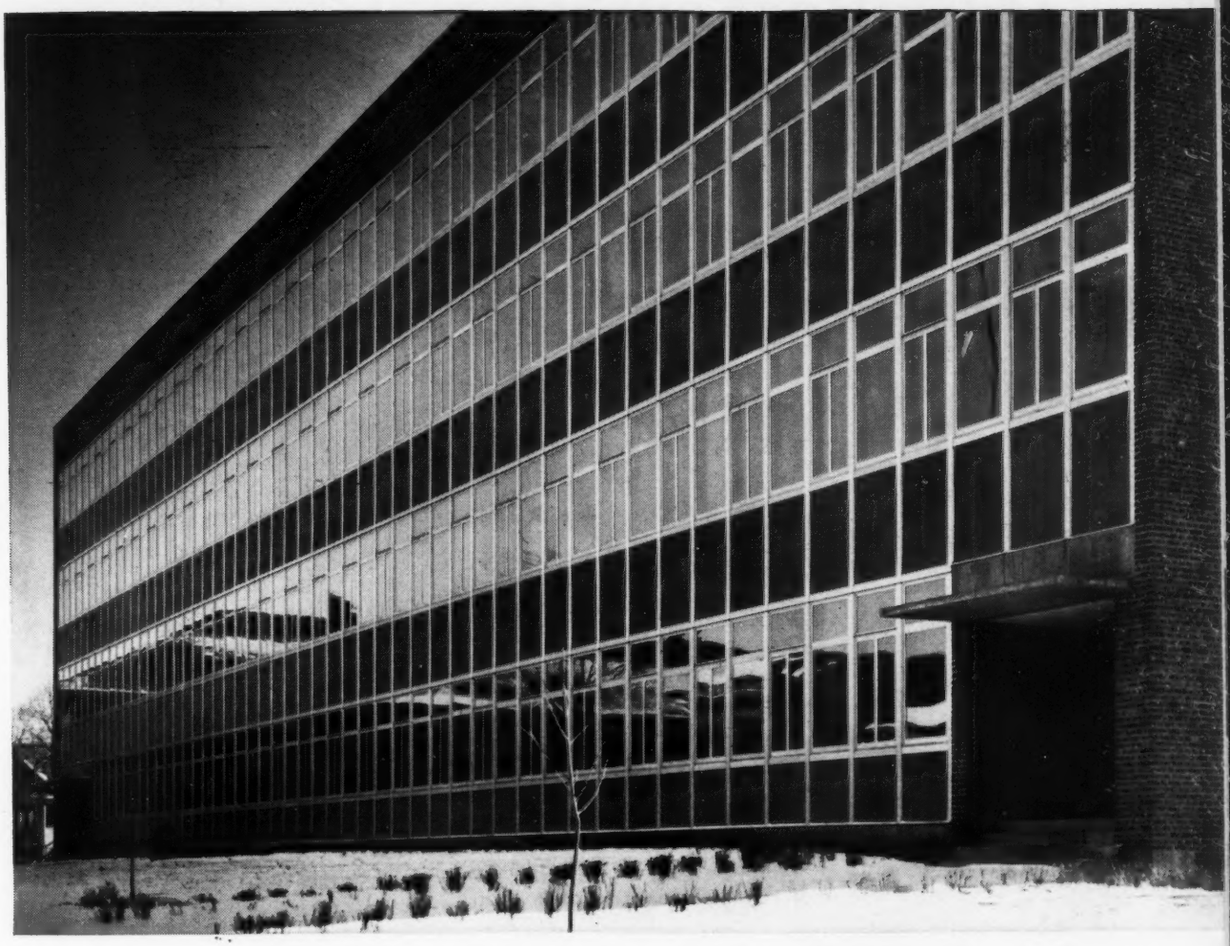
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...*pioneered by* OWENS ILLINOIS Glass Company

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Chemical Engineering Building, University of Minnesota, Magney, Tusler & Setter, Architects. Roy Jones, University of Minnesota, Advisory Architect. H. M. Leighton Company, General Contractor. The Flour City Ornamental Iron Company, Ornamental Metal Subcontractor, including windows. Alcoa Aluminum used in windows, spandrels, entrance frames and trim, stairway handrails and copings.



....FOR FLEXIBILITY...DESIGN IN ALUMINUM..

In this laboratory, the designer, making skillful use of the many shapes, colors and textures available in aluminum, has made the window-spandrel pattern an expression of both the building's purpose and of the three-foot, eight-inch modular unit used throughout.

As the architects state, "The clean lines of the exposed aluminum surfaces give a straight forward appearance to the entire structure, which seems appropriate in view of the function of the building. Aluminum seemed the natural choice for its light-weight construction, ease of maintenance and regional climatic considerations."

In the planning stages of this, and nearly every other outstanding architectural use of aluminum, Alcoa sales engineers worked with the architects and engineers. They are at your service. For information on any form of aluminum and its availability under present limitations, call your nearby Alcoa sales office or write:

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nothing protects against sudden shower scalds like

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GIVE THEM THIS EXTRA SHOWER SAFETY
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SHOWER SAFETY

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LIFETIME QUALITY

. . . Only one moving part. Designed and manufactured by engineers and approved by architects, pressure-actuated *Safetymix* is the most rugged shower control valve made. Only *Safetymix* has the patented Flow Control Spindle with but one moving part to control *all* valve functions.

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COSTS NO MORE

Because it costs no more than ordinary shower valves and is guaranteed to be entirely as represented, architects specify Safetymix and engineers recommend it. Safetymix gives the extra safety and satisfaction that builds better reputations. Safetymix is used in thousands of schools, colleges, hotels, industrial plants, institutions and better homes from coast to coast.

See Sweets Architectural File or your Domestic Engineering Catalog.

Send for bulletin and prices.

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leads again!

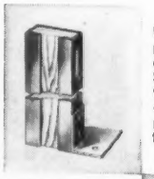
Amazing new Series 800 metal sliding passage door frame gives you advantages never before available!



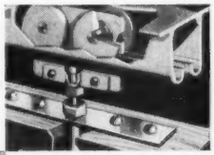
saves time
saves labor
eliminates warp

Builders, architects and owners from coast to coast are demanding the Kennatrack Series 800 Metal Frame for sliding passage doors. This frame saves time . . . saves labor . . . eliminates warpage, and can easily be installed by anyone. Treated for rust resistance. Multiple adjustment features make fit and plumb child's play. Designed for all standard 2 x 4 walls. Frames come in standard door widths. Secure complete facts . . . then you can see more clearly just what these advantages mean.

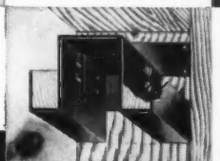
Write Dept. F-1



Prefabricated and complete in one package. Includes famous Kennatrack Series 400 heavy duty track assembled to header at factory, with hangers in place. Can be installed on the job in 25 minutes.

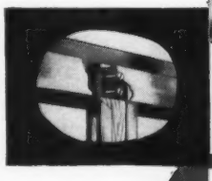


Above: Wood filler strips in metal frame allow plaster base, stops and trim to be nailed or screwed in usual manner.



Door rolls smoothly, quietly on not two . . . not four . . . but on EIGHT Nylon wheels. Ball bearing axles.

Left: Header adjustable two ways: (1) Pocket end allows ¾" horizontal adjustment to fit rough opening; (2) Jamb end permits ¾" vertical adjustment.

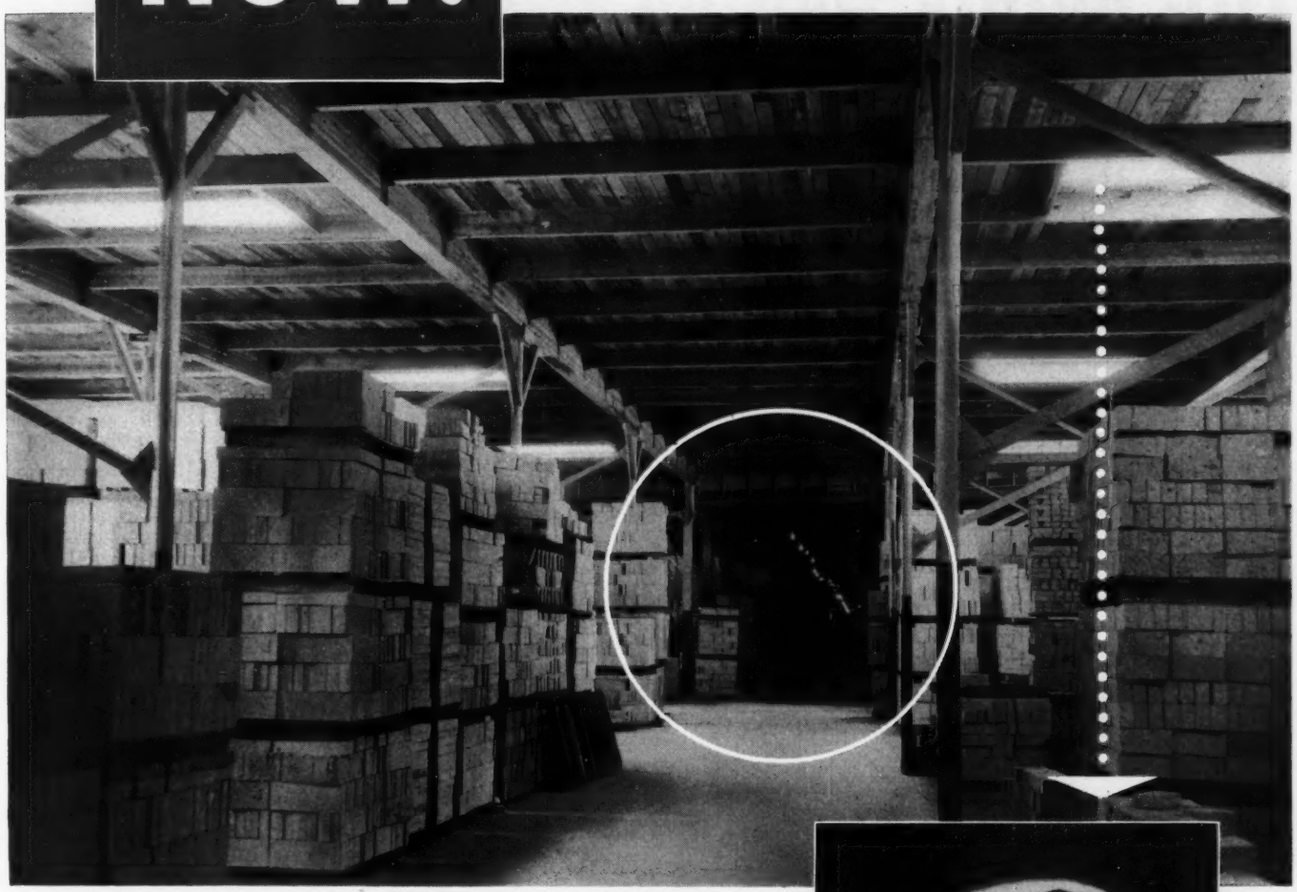


Left: Split jambs and supports also provide 1" adjustment for height.

F1

JAY G. McKENNA, INC.
ELKHART, INDIANA
Jay G. McKenna (Canada) Ltd., 104 Jarvis St., Toronto
SPECIALIZING EXCLUSIVELY IN THE MANUFACTURE OF SLIDING DOOR HARDWARE

NOW! *turn off the lights... turn on the daylight!*



***"Elimination of electric lighting** during daylight hours, better distribution of light to create better working conditions . . . consequently safer conditions and better inspection of the merchandise" are the reasons of the Lindblad Construction Company for recommending Wascolite Skydomes in the new addition to the General Refractories Co. plant, Rockdale, Ill. Note sharp contrast between daylighting by Skydomes and illumination by incandescent lamps in adjoining structure (circled).*

Thousands of dollars annually in power costs alone can be saved with Wascolite Skydomes . . . world's most efficient daylighting units. Improved production, safer working conditions, and elimination of lighting maintenance for daytime operations are also achieved.

Skydomes transmit 62% more light than conventional skylights* . . . are weather-proof and shatter-resistant. They come completely prefabricated . . . are installed in *minutes*. They are 100% *worry-proof* . . . require no maintenance except for routine washing under extreme conditions. Skydomes are adaptable for any climate because their design permits free expansion and contraction of the Plexiglas dome.



Wascolite Skydomes are available in stock sizes to fit standard roof openings (custom sizes to order) . . . in square, circular and rectangular frames . . . in *clear colorless* or *white translucent* Plexiglas. Specified light readings are easily obtained. Write for complete information.

**By independent laboratory tests; name on request*

WASCOLITE SKYDOMES®
PATENT PENDING
"62% More Light On The Subject"

WASCO FLASHING CO.
82 FAWCETT ST.
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Here's the floor construction that can make your next school, store, small factory or hospital fire-safe. Bethlehem Open-Web Steel Joists, used in combination with concrete floor slab and plaster ceiling, provide an incombustible barrier against the spread of fire.

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Bethlehem Open-Web Joists speed construction, help cut costs. They reach the job clearly marked and ready for immediate placing. They are installed without falsework or special equipment. Pipes and conduits are run right through the open webs.

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BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

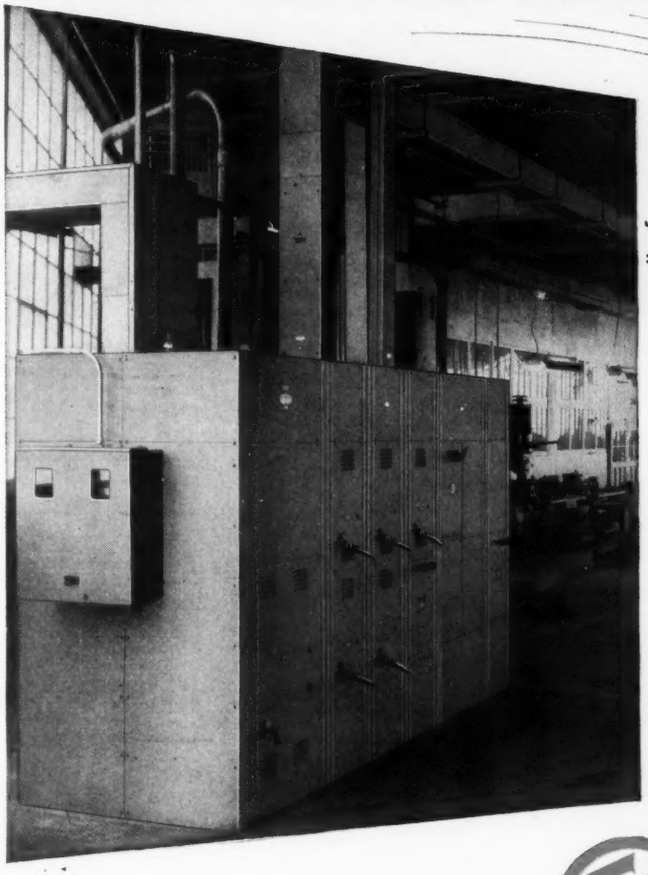
On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. Export Distributor: Bethlehem Steel Export Corporation

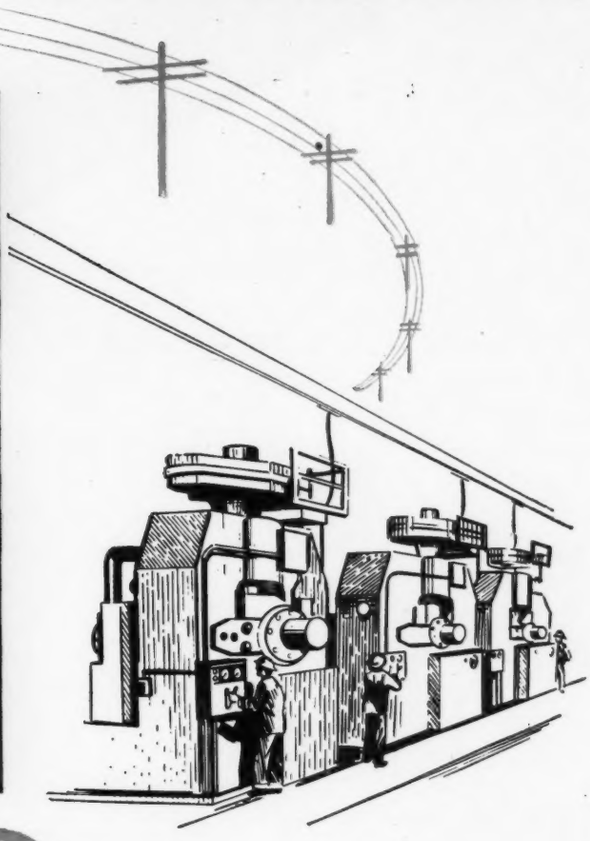
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BETHLEHEM OPEN-WEB JOISTS

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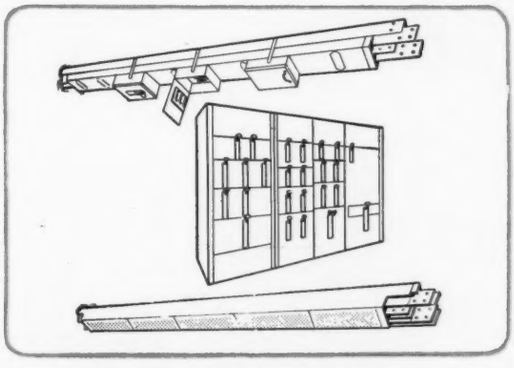


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For complete information about all FA products, contact your nearest FA representative, listed in Sweet's, or write to Headquarters.



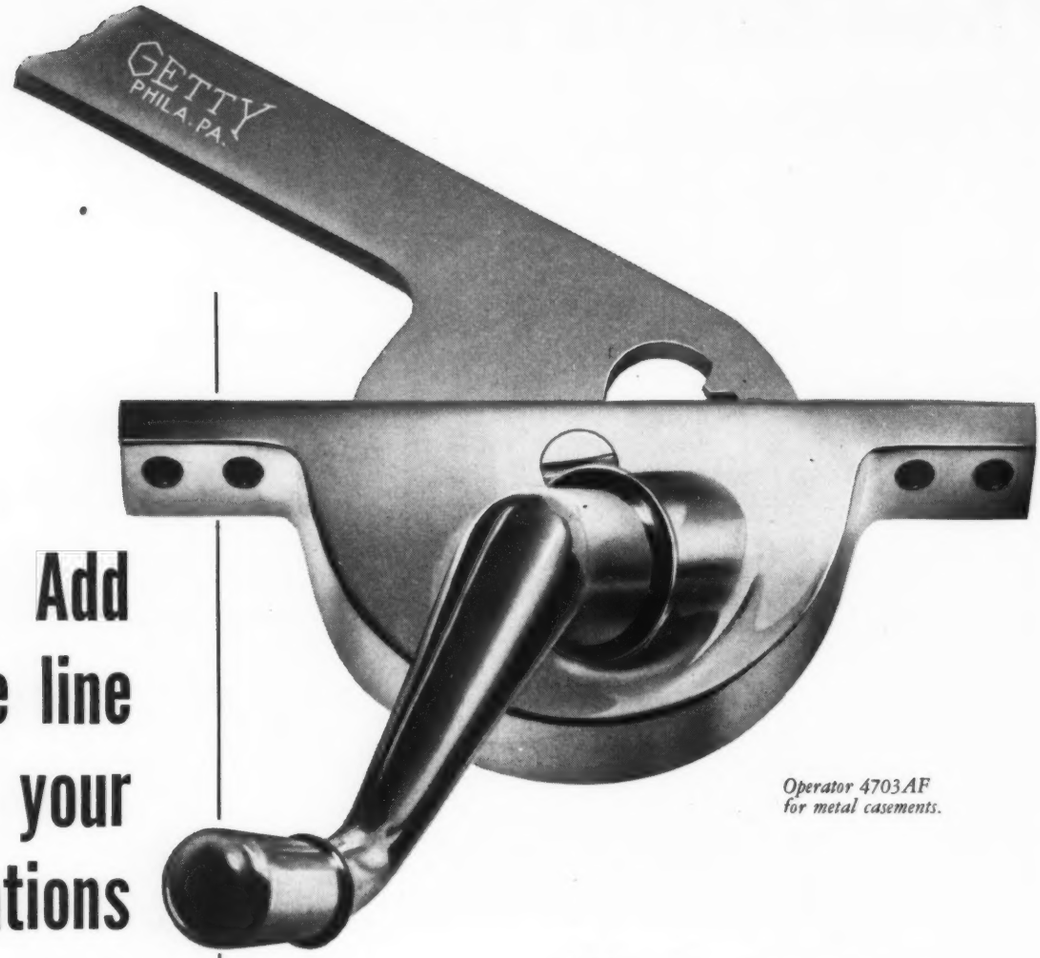
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Operator 4703AF for metal casements.

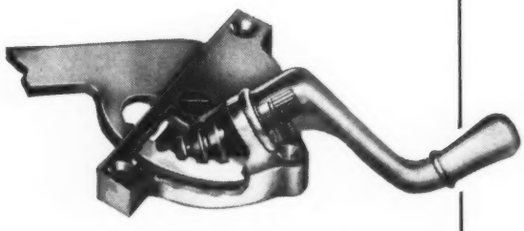
Add one line to your specifications and be sure

Why leave it to chance when you can have GETTY operators as original equipment on metal casements by simply adding one line to your specifications?

With any casement operator goes a big responsibility. As control tower of the window's flight, it must respond to the touch of a finger, lock securely at any opening, and withstand years of hard twists and turns. It's a man-sized job —a GETTY job.

GETTY Operator 4703AF is the only *internally* geared metal casement operator. This exclusive feature permits the entire length of the worm to be engaged at all times with the gear teeth—assuring "fingertip" control and a lifetime of faithful service.

That's why we ask architects and builders to add this small but significant phrase to their specifications and orders: *GETTY Operator 4703AF on all metal casement windows.*



Operator 4703W for wood casements — cutaway shows internal gearing.

see our CATALOG in SWEET'S FILE

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GETTY OPERATORS ARE FOUND ON MORE CASEMENT WINDOWS THAN ALL OTHER OPERATORS COMBINED



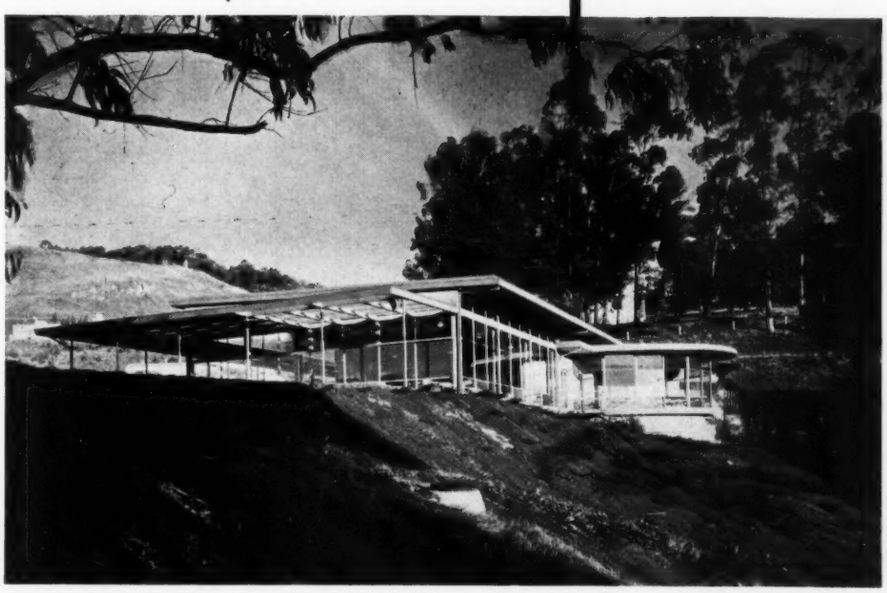
CENTRAL LABORATORY

A-E RESEARCH BUILDINGS

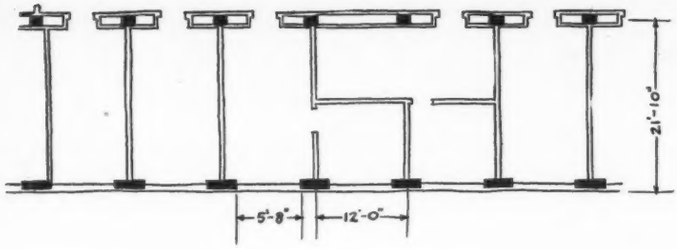
U. S. ATOMIC ENERGY COMMISSION . . . UNIV. OF CALIFORNIA

Hertzka & Knowles, Architects

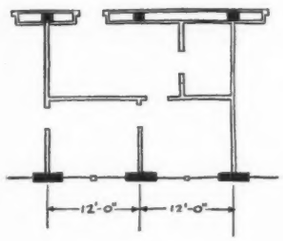
CAFETERIA

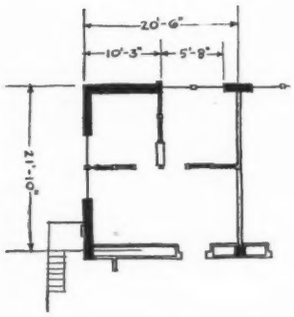


Photos: Ernest Braun



Plans, left and below, show the 12-ft modulus and single row of interior columns which were found most adaptable to space requirements of individual laboratories. Usable wall space was needed on all four sides of each laboratory, and in this building large glass wall areas were found to cause serious problems. Hence a fairly small window unit was centered in each bay



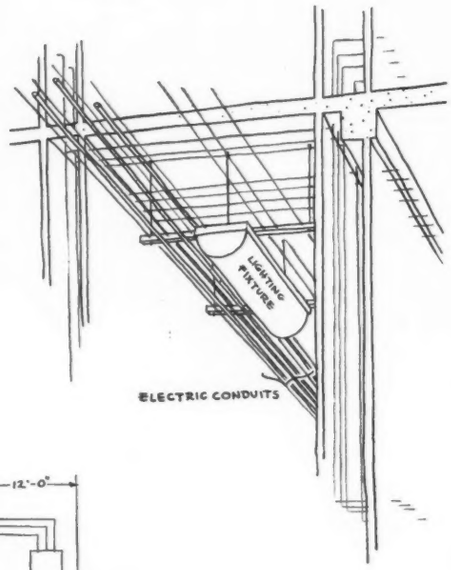


Perspective and detail show exposed plumbing and services at ceiling of second-floor corridor with risers running in walls to other floors. Air supply duct is furred in first-floor corridor ceiling, return exposed in third-floor corridor. Furred spaces, which might constitute hazards, are eliminated from individual laboratories

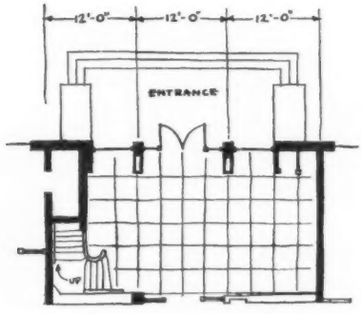
A.E.C. BUILDINGS

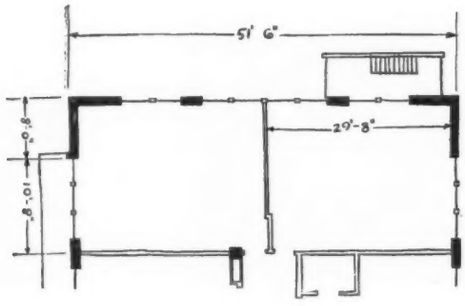
CENTRAL RESEARCH LABORATORY

THIS CENTRAL RESEARCH LABORATORY differs little from the conventional industrial research laboratory. Its first two floors house administrative areas, etc., and offices and laboratories for physicists. On its third floor are conducted experiments using one curie or less of radioactive substances, but structurally the third floor is like the others. This could be done because, where quantities of active materials and radiation hazards are small, the building can be designed in accord with what has been nicknamed the "concentrate and contain" philosophy. Under such a program only the small content of a box laboratory, within which all experiments with radioactive substances are conducted, is "hot." Negative pressure within the box insures that the small volume of contaminated air will pass through a filter before being exhausted. This simplifies ventilating problems, and using box labs means that no excessively large, heavy equipment need be built into the structure. Such simplicity cannot be attained in an A-E lab designed according to the "dilute, disperse, decontaminate" theory which permits handling radioactive materials openly under hoods and entails extensive air treatment, laundry, water decontamination, and residue disposal problems.



Location of chemical and medical labs on top floor permits simple ventilating system (pressurized corridors exhausted through rooms, blowers for greater airflow when needed) and short duct runs







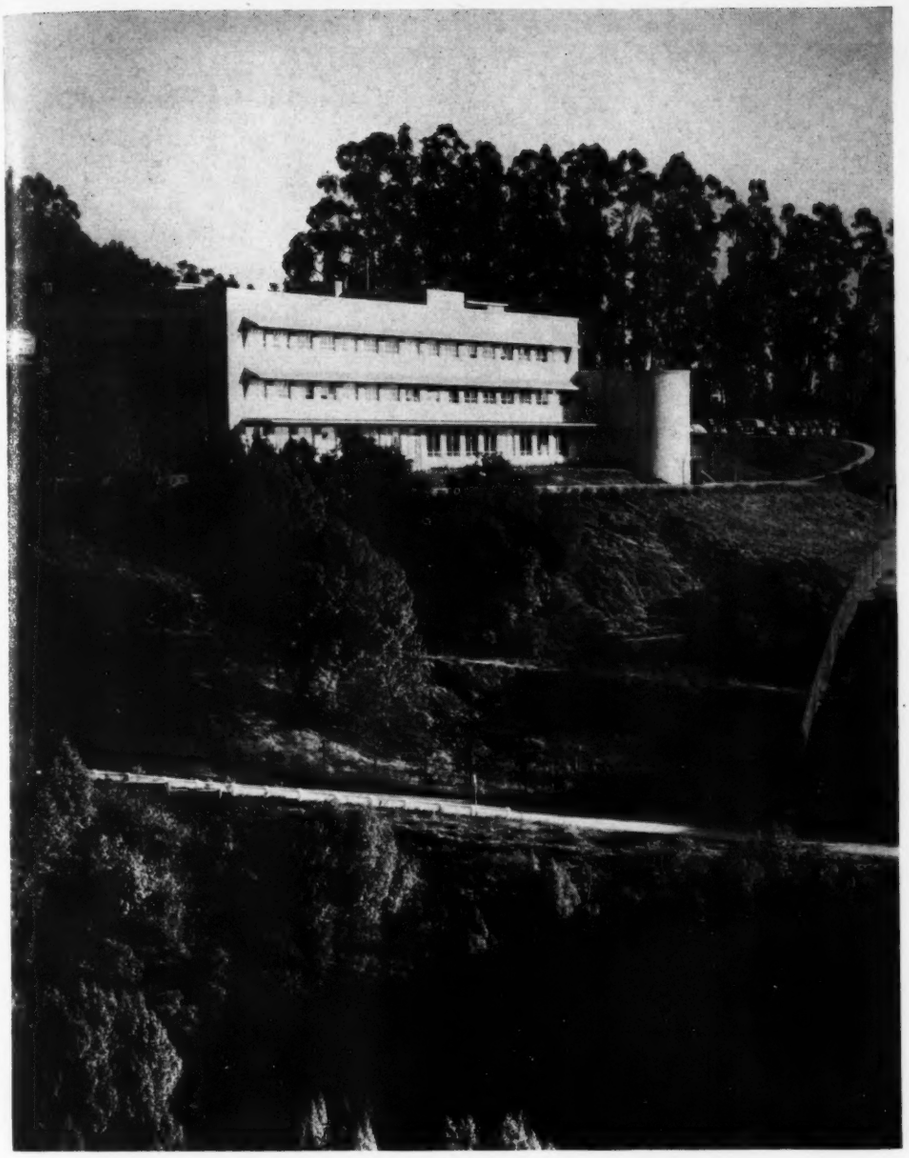
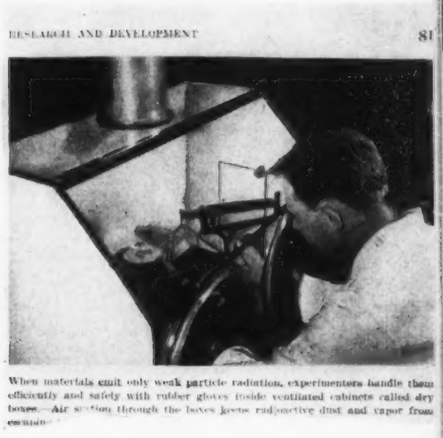


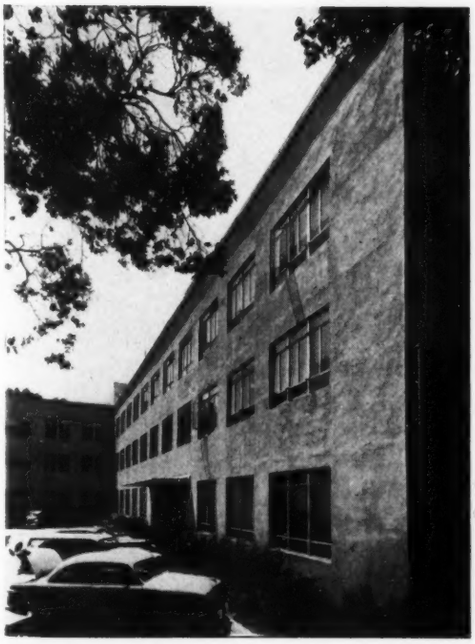
Photo below, reproduced from the Atomic Energy Commission's handbook, "Control of Radiation Hazards in the Atomic Energy Program," shows one type of cabinet or box. Worker inserts hands in protective gloves fixed to cabinet



RESEARCH AND DEVELOPMENT 81

When materials emit only weak particle radiation, experimenters handle them efficiently and safely with rubber gloves inside ventilated cabinets called dry boxes. Air suction through the boxes keeps radioactive dust and vapor from escaping.

Photos: Ernest Braun







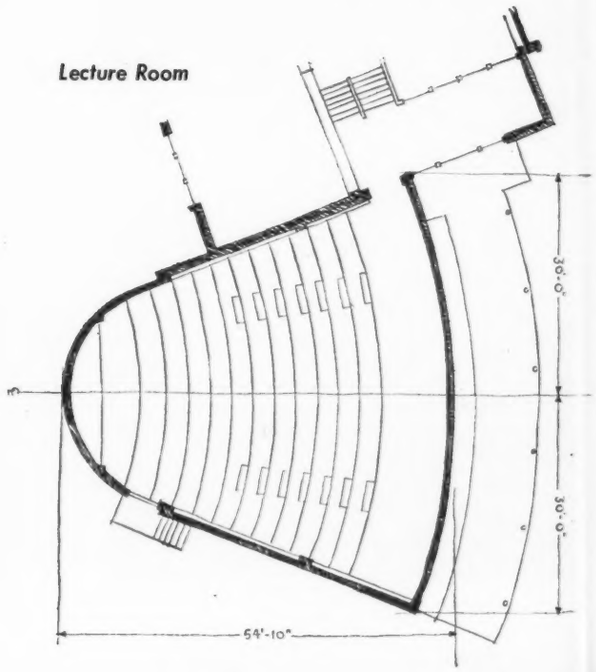
CENTRAL RESEARCH LABORATORY

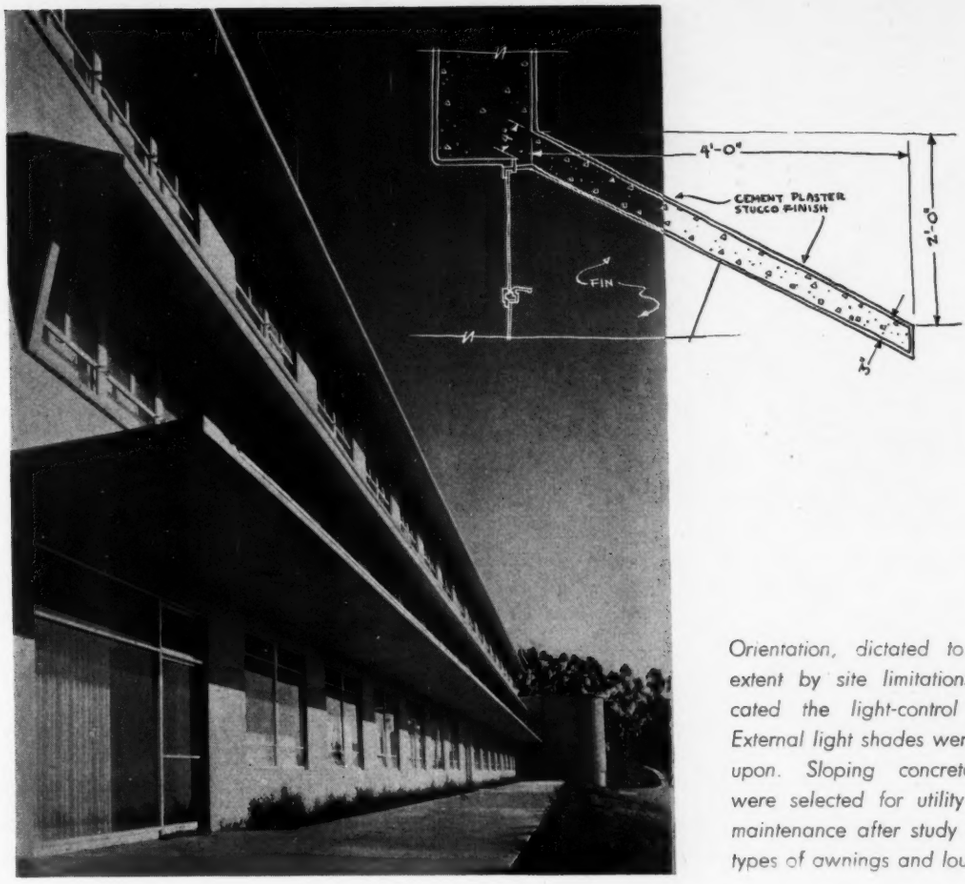
Construction: reinforced concrete columns, floors, walls, roof. Interior partitions: wood stud for economy and easy removal. Interior walls are smooth plaster, ceilings acoustical tile and plaster, exterior cement stucco, windows steel, entrance doors aluminum





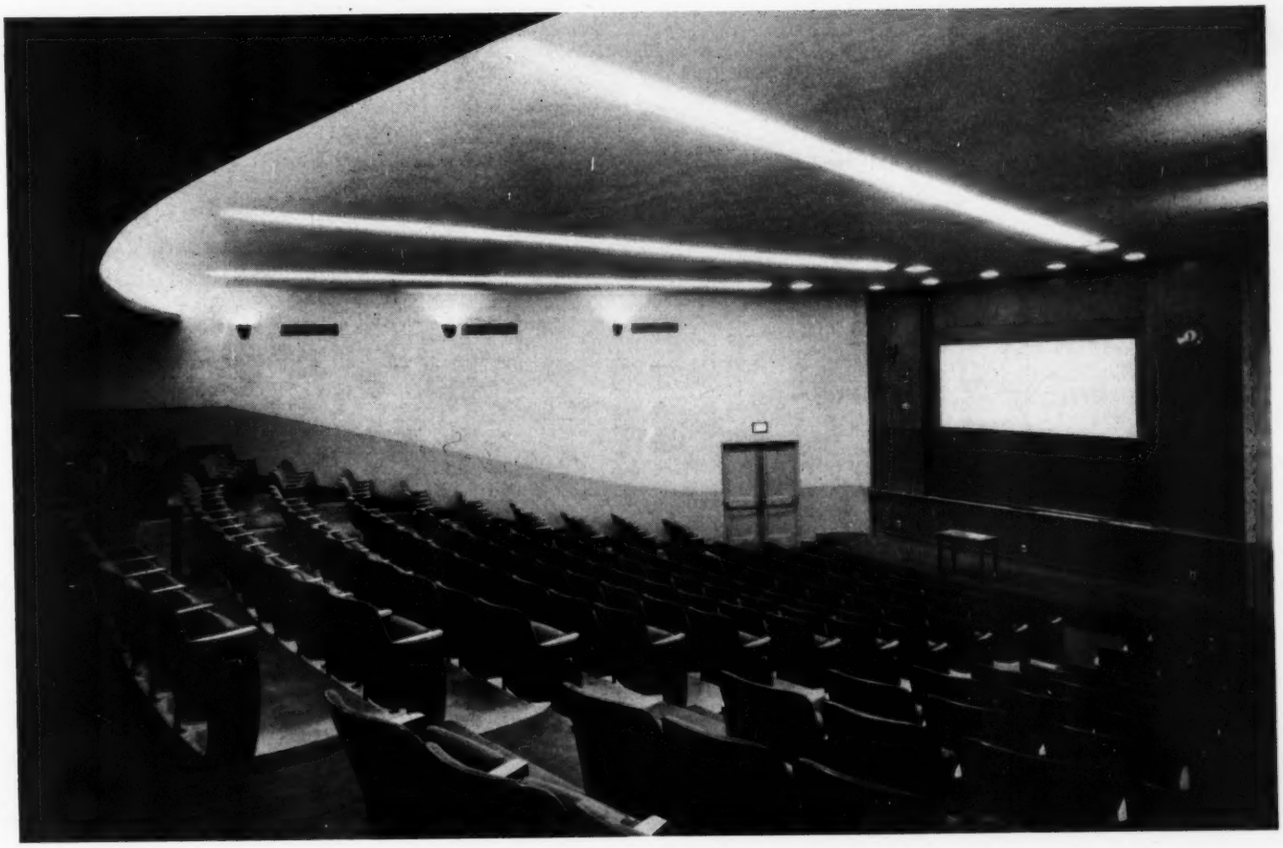
Lecture Room



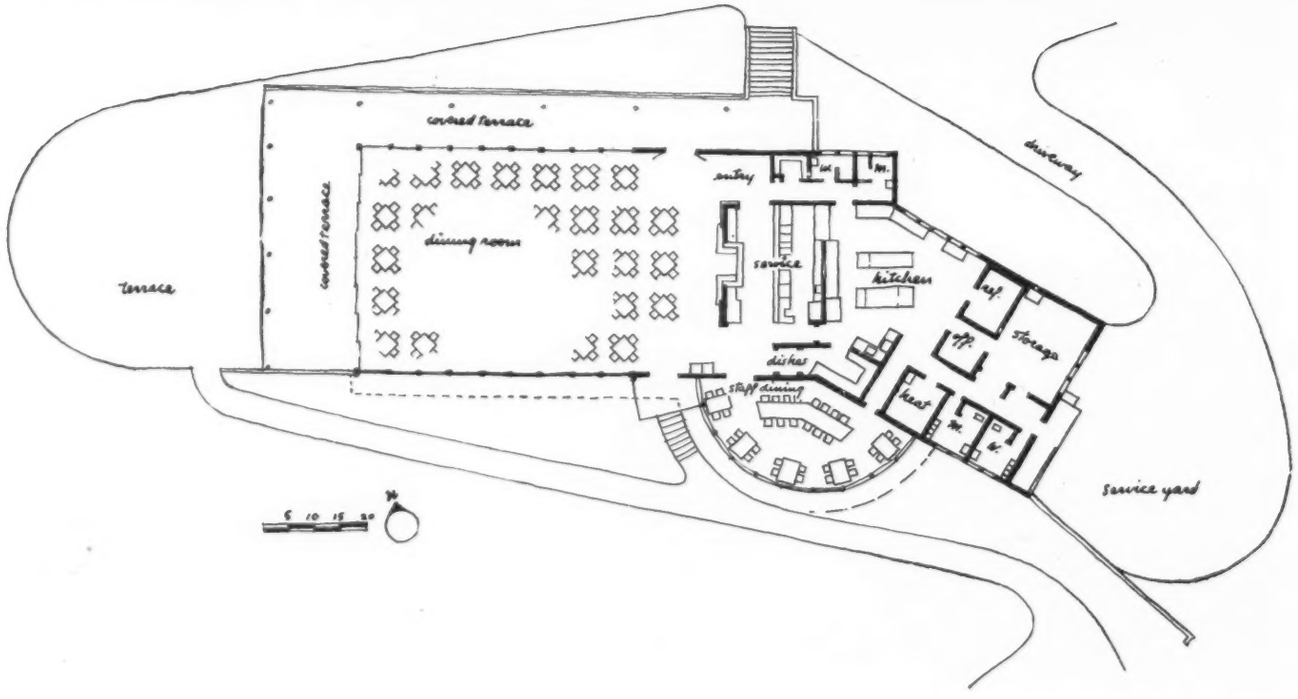


Photos: Ernest Braun

Orientation, dictated to a great extent by site limitations, complicated the light-control problem. External light shades were decided upon. Sloping concrete shades were selected for utility and low maintenance after study of various types of awnings and louvers






covered terrace
entry
dining room
service
kitchen
ref.
off.
Storage
dishes
staff dining
terrace
covered terrace
driveway
service yard
5 10 15 20

CAFETERIA



Photos: Ernest Braun

THE CAFETERIA at the University of California's radiation installation has a main dining room capable of seating two hundred and a smaller dining room for staff or guest luncheons. It is designed to serve only the laboratory personnel, comprised of mechanics of all trades, office and administrative workers and staff, and scientists.

All the available land is extremely hilly. Since it was desired that this building should not occupy space suitable for a more important or essential structure, selection of a site was limited to those which were considered marginal. The one finally chosen is sloping and has an inspiring view over Berkeley, San Francisco Bay and the Golden Gate, channeled down a ravine with trees on either side. Economy and provision of a pleasant atmosphere governed the Cafeteria's design.

To take advantage of the views and to establish an atmosphere conducive to relaxation, it was decided to create a glass-walled pavilion with ready access to several terraces for lunching outdoors in good weather. Strict economy of construction was important due not only to budget limitations, but also to the fact that the building is considered to be something less than permanent.



A.E.C. CAFETERIA

Dining rooms are constructed of rigid steel frames with wood purlins and 2-in. roof planks; kitchen is wood framed. Dining room floors are concrete slabs, radiant heated and covered with asphalt tile. Sash are steel in steel frames; ceilings, acoustical tile. Lighting fixtures were designed by the architects

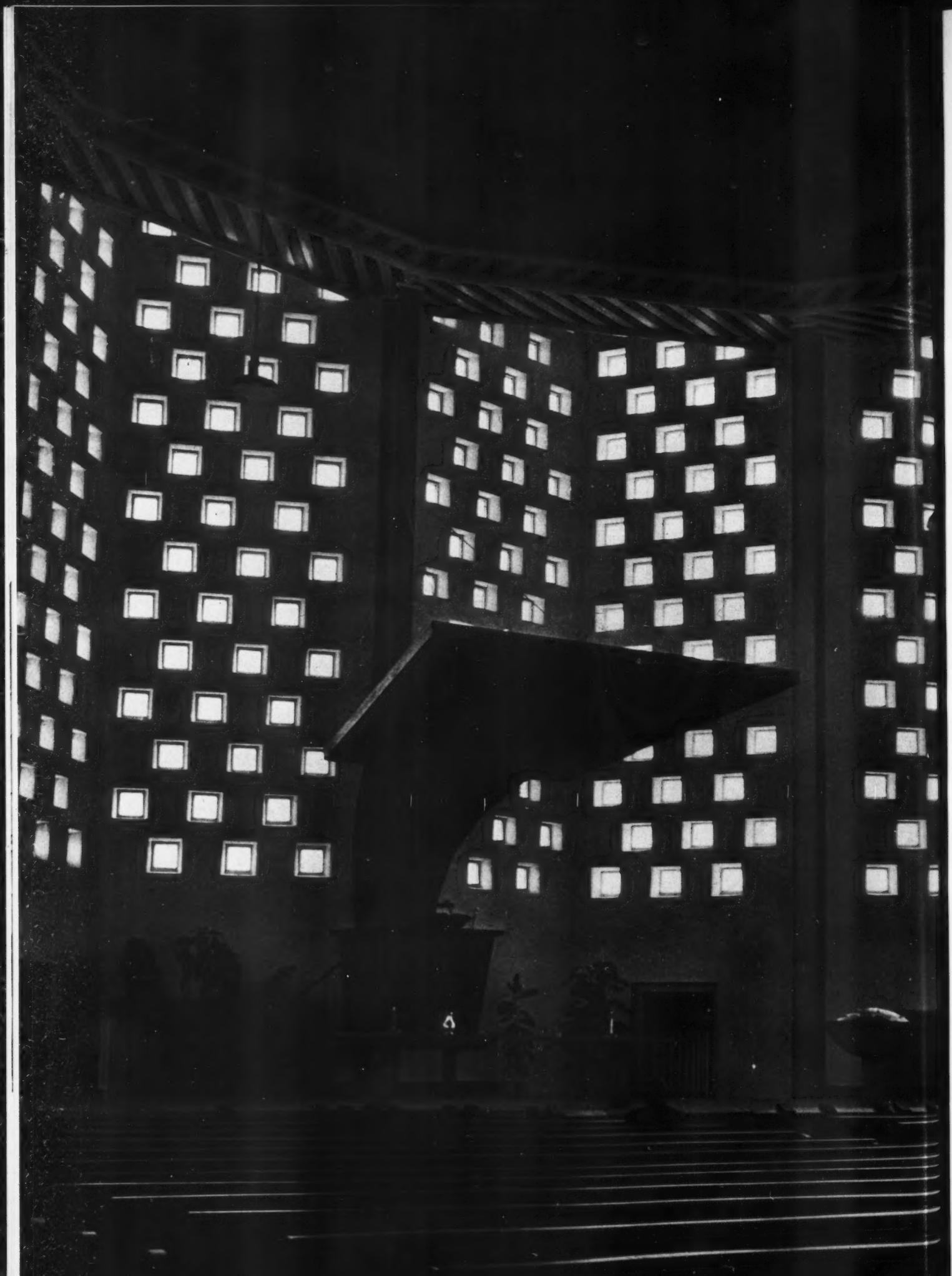


The Central Research Laboratory and, in a different fashion, the Cafeteria at the University of California show the effects of flexibility as a prime design consideration. In the Laboratory, though the building shell is concrete, because radioactivity is confined to comparatively small experiment boxes the structure is uncomplicated and interior partitions can be shifted relatively easily. The Cafeteria could be dismantled with ease. The two buildings, so different in appearance that they scarcely seem to have been designed in the same office, thus have much in common. In addition, the Cafeteria demonstrates that low-cost, temporary construction need not be ugly.

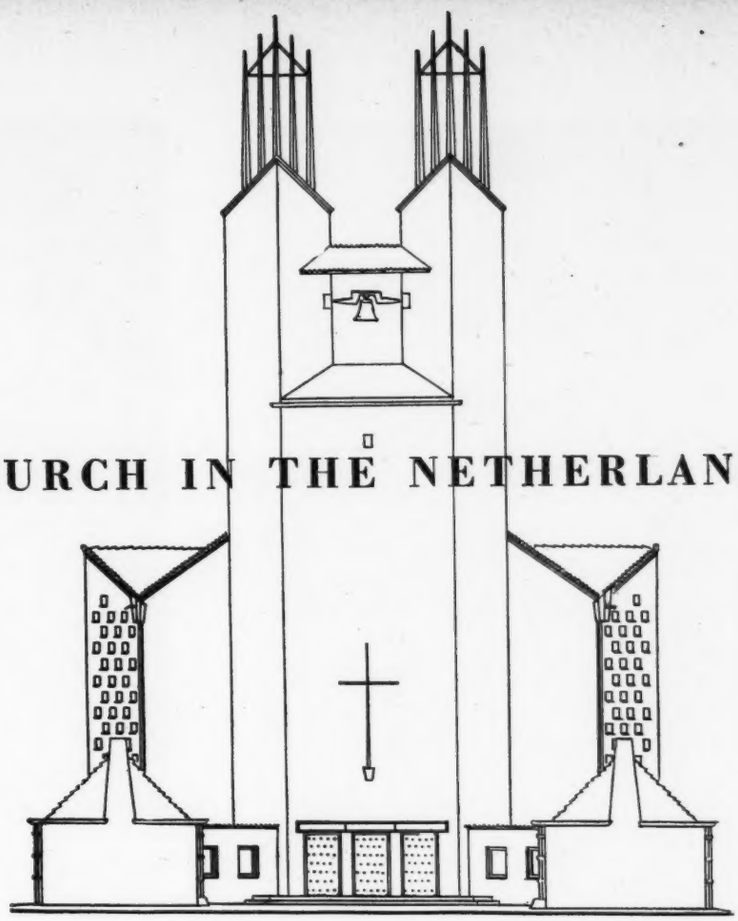


Photos: Ernest Braun





CHURCH IN THE NETHERLANDS



KRUISKERK (CROSS CHURCH), AMSTELVEEN
Marius Duintjer, Architect

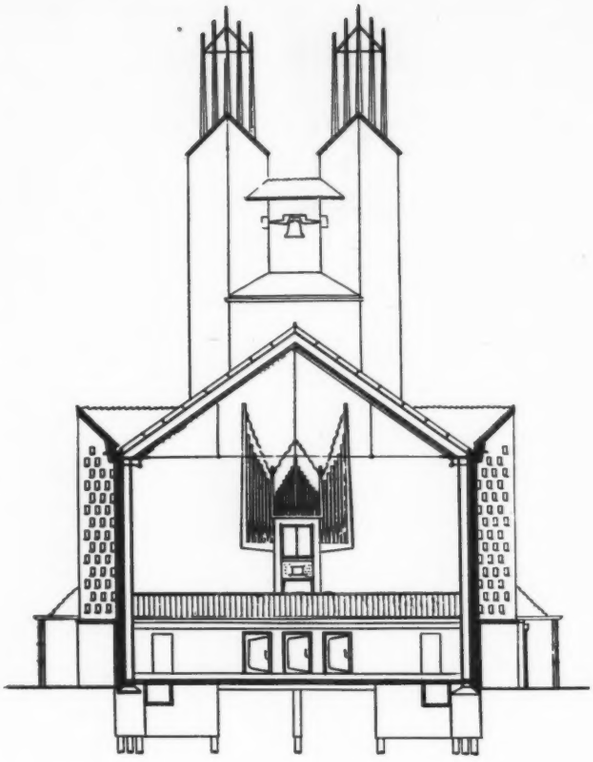
CHURCH BUILDING COMMITTEES are not always as far-sighted and intuitive as the one responsible for this Dutch Reformed Church in Amstelveen, near Amsterdam, The Netherlands. The Amstelveen committee instructed its architect that "every effort should be made to bring the church closer, in a modern and progressive manner, to the community," and that "we want a church, not a hall." More prosaic requirements were location of the pulpit

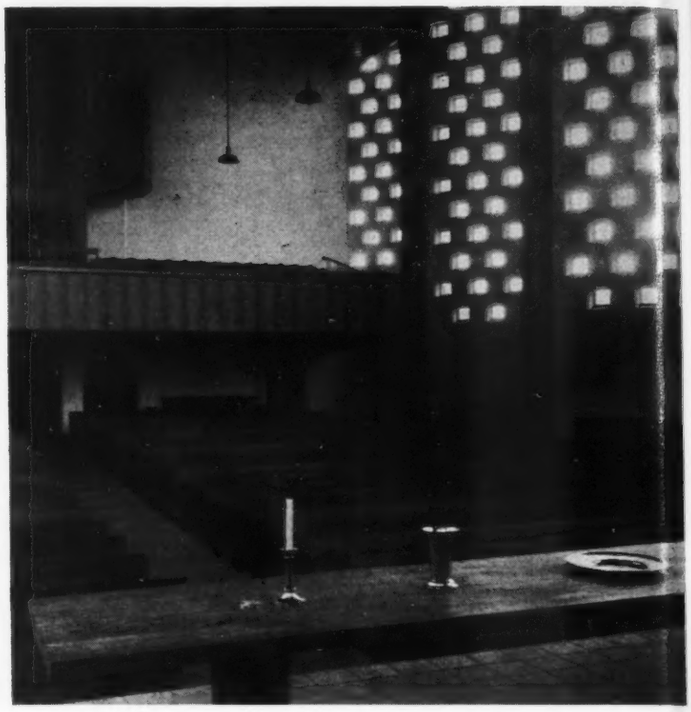
P. van der Weiden
Consulting Engineer

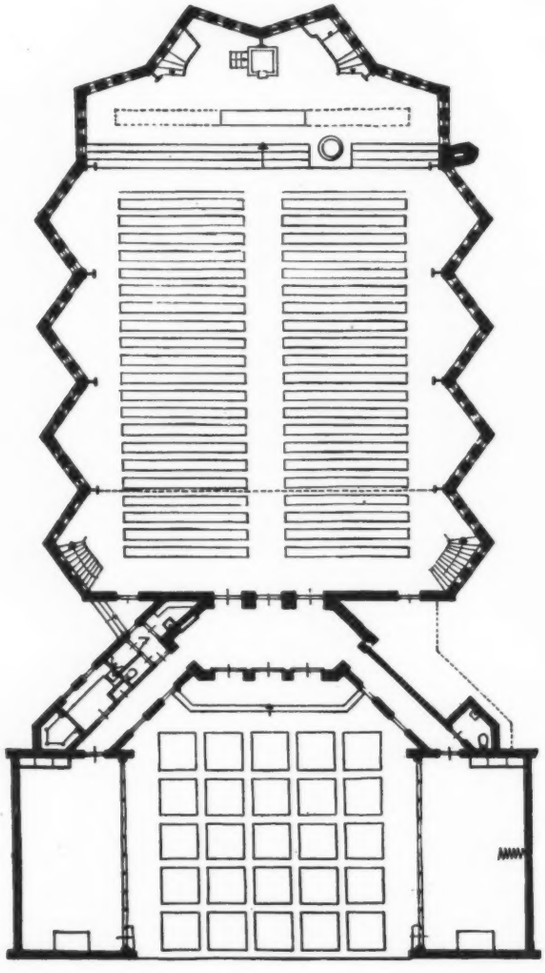
B. Guntenaar
Sculptor

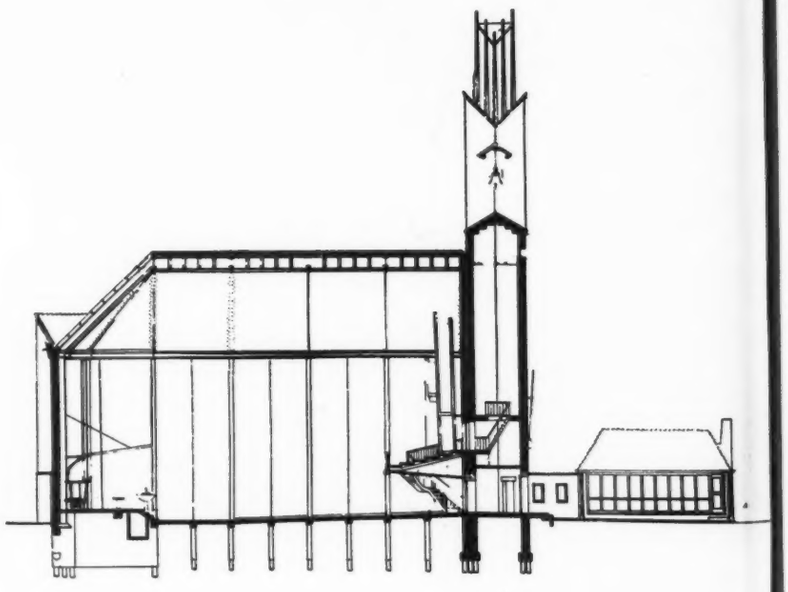


Photos courtesy Netherlands Information Bureau









Top: organ loft is at rear of church to permit seating of 1000 in nave. Left: pulpit is at head of center aisle, with communion table directly below it; table can be extended (dotted lines) to accommodate a total of 65 communicants. Above: foundations are wood piles, approaches are concrete

in the center of the chancel, a large communion table and a large baptismal font.

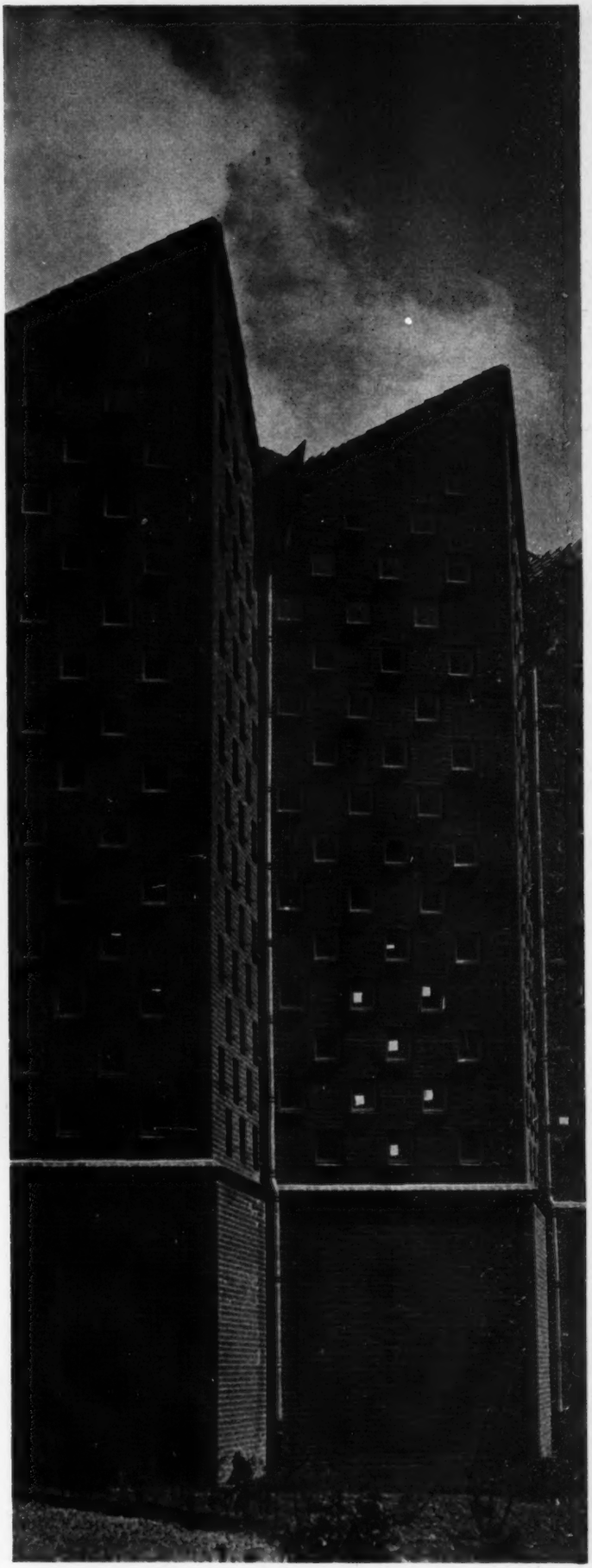
The site of the new church could not have been better chosen to stress the community relationship: it borders on a municipally owned park area (page 118) which, when fully developed, will include a promenade, a children's playground, and an open-air theater at its eastern end. The church itself eventually will be surrounded by open lawn, so that there will be no visible separation between it and the municipal property.

The idea of the centrally-located pulpit was the starting point in the design of the church. "The movement in the Reformed Church in favor of a reduced length of nave, in the direction of the pulpit," the architect comments, "has grown little by little. We also sought this moderation of the longitudinal direction in fixing the transverse axes. . . . This was the reason for cutting into the outer walls."



Photos courtesy Netherlands Information Bureau

Above: carved dove, symbolic of the Holy Ghost, on front of the pulpit was designed by Guntenaar; sounding board over pulpit has as much esthetic value as practical



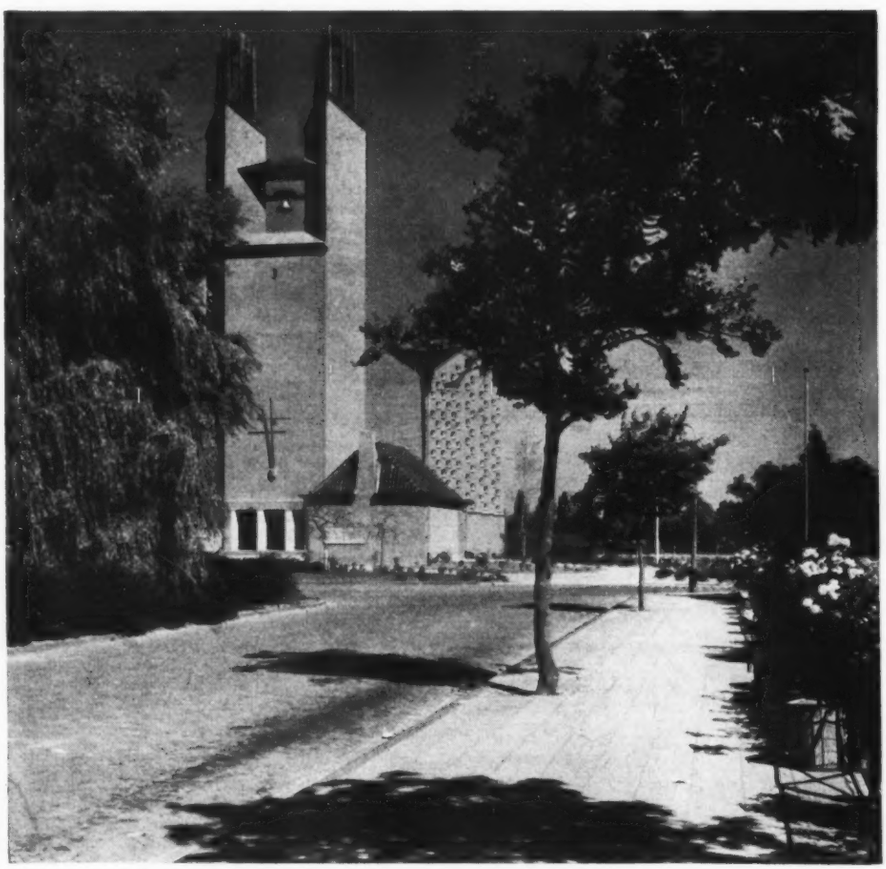
The most striking design feature of the building is the substitution of 996 small windows for the few large windows customarily used in churches. Distributed over three of the four walls, they permit a screened light to penetrate to every corner of the church proper; they also contribute materially to the feeling of space created by the accordion-like walls and the high ceiling.

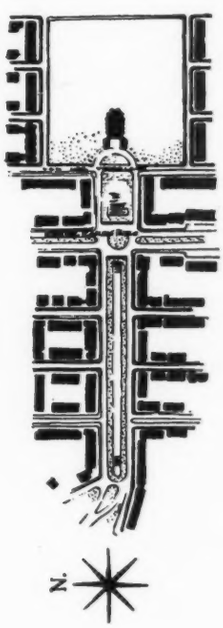
The organ was placed in a balcony at the rear of the church to boost the seating capacity to an even thousand. Sunday School room, deacons' room, a tea room, archives and wash rooms are provided in the two small buildings flanking the church front.

Construction is reinforced concrete and steel. Tower spires are lead-covered wood; ceilings are wood; pews, pulpit, communion table top and organ casing are mahogany. Floors are covered with red tile, walls are finished in white cement. The baptismal font of basalt has a red copper lid with a handle representing Jonah and the whale; it was designed by the sculptor, B. Guntenaar.

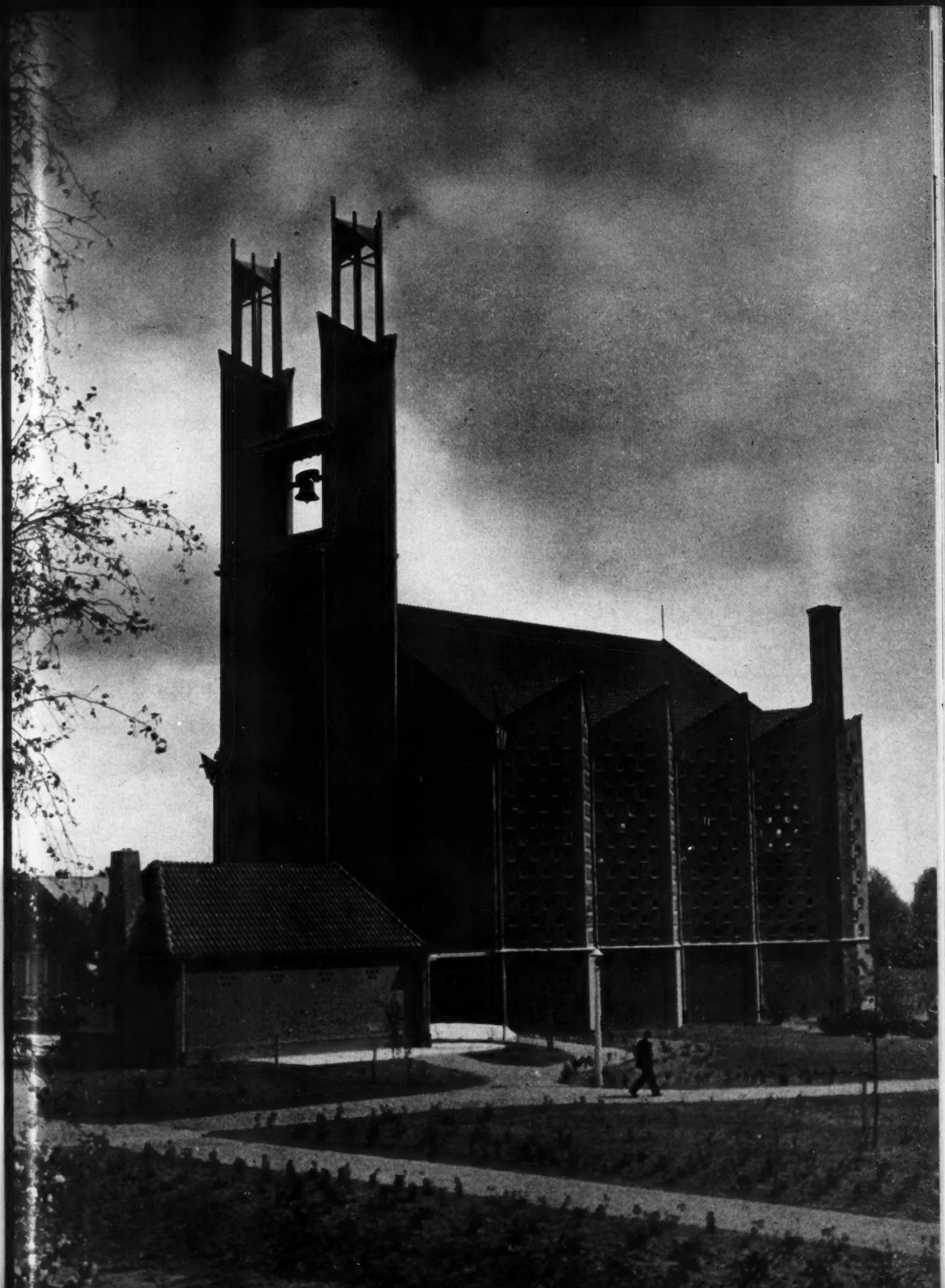
CHURCH
IN THE NETHERLANDS

Photos courtesy Netherlands Information Bureau

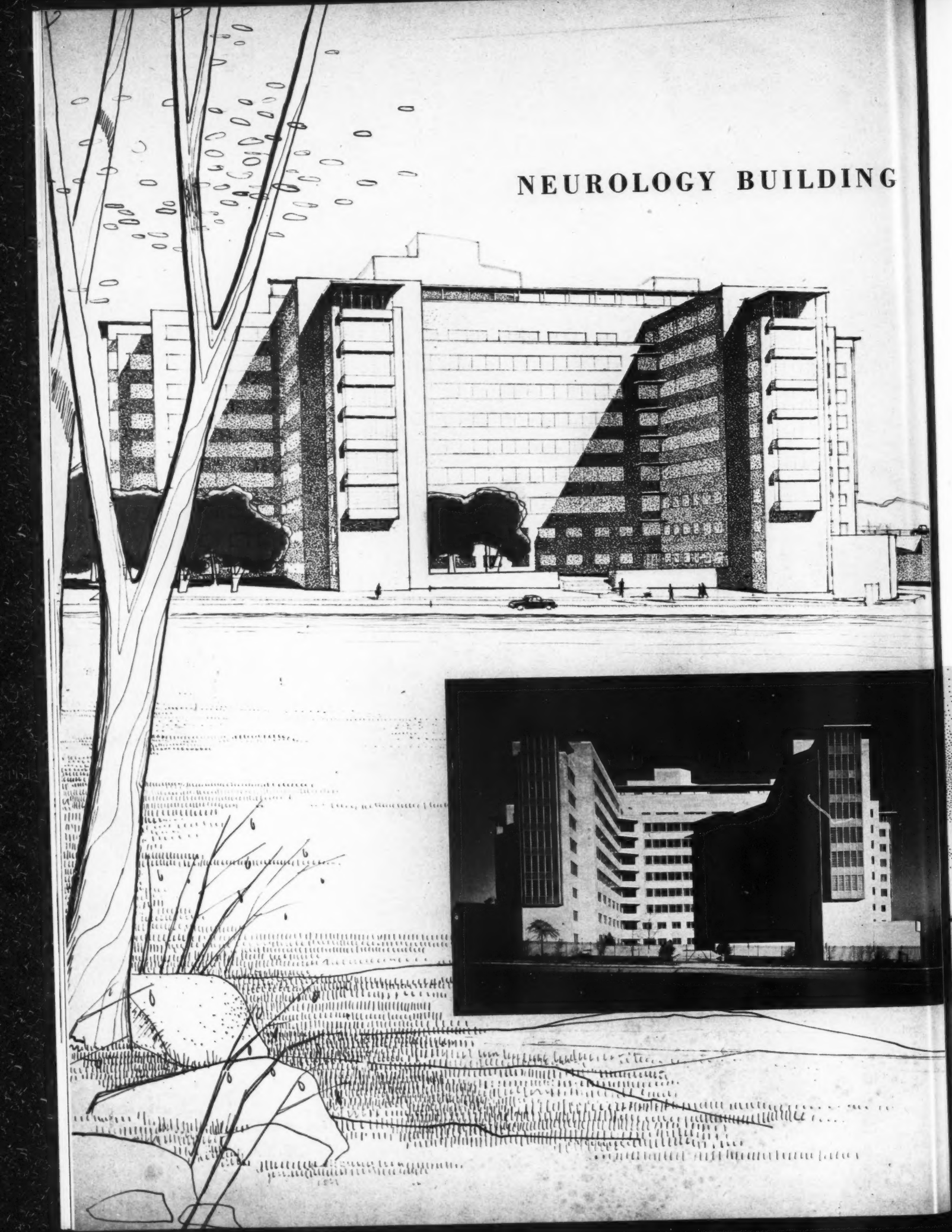




Front of church is completely closed, contrasting pleasantly with window-studded walls on other three sides. Bell hangs free between the towers, far above church doors



NEUROLOGY BUILDING



Harbeson, Hough, Livingston & Larson, Architects

PHILADELPHIA GENERAL HOSPITAL

Dr. Rufus S. Reeves, Director
Philadelphia Department of Public Health

Dr. Pascal Lucchesi, Director
Philadelphia General Hospital

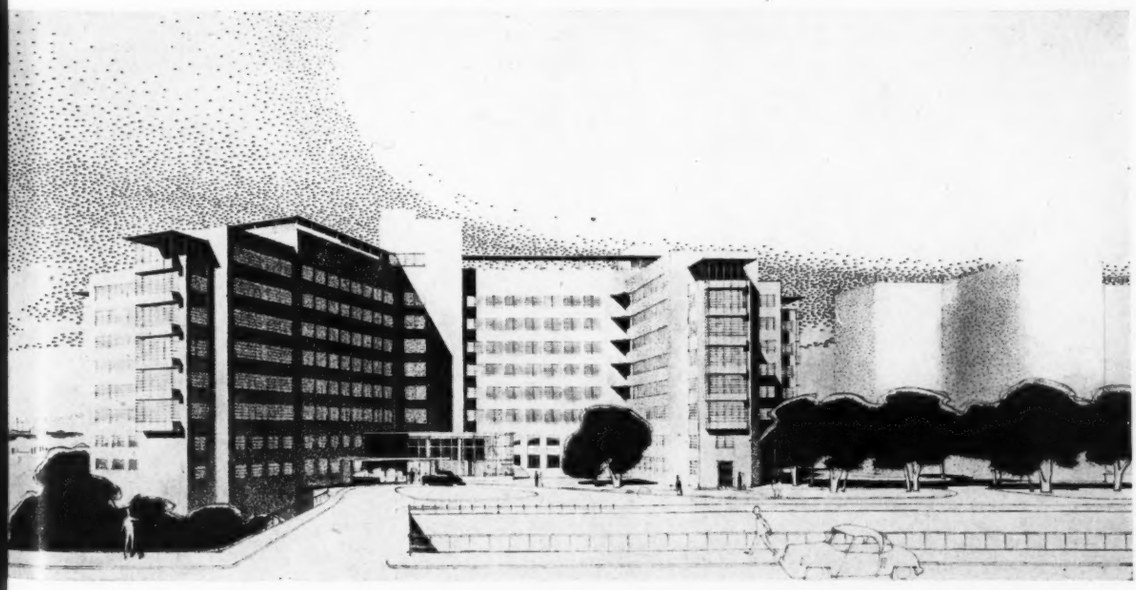
Sauter and Castor, Structural Engineers

Moody and Hutchison, Mechanical Engineers

IN THE COUNTRY-WIDE EFFORT to improve standards of treatment and care of mental patients, this building represents a major advance. It is a large facility for a huge municipal hospital group, and so is in position to serve a great need, not only in inpatient care in 750 beds, but also in outpatient work and in teaching medical personnel and nurses.

In developing the program for the Neurology Building, the director of the hospital, the building committee of neurologists and psychiatrists, and the staff were concerned that the building provide for the most advanced methods of treatment and rehabilitation, also that it provide cheerful surroundings conducive to modern therapy. Essential to the program were class and lecture rooms and demonstration facilities for instruction of nurses of this and other hospitals and of medical students from five schools in Philadelphia.

It is the policy of the hospital to have a minimum of private rooms, in a concept of economy and of equal care for all patients, and in the rest of the hospital large wards are the rule. In this building there are 16-bed and 24-bed wards, but they are divided into 4-bed groups by partial partitions, as some sense of privacy is desirable for nervous patients. Additional partition-



First of many new buildings in a 20-year plan, the Neurology Building adds 750 beds for care of mental patients, and extensive facilities for outpatient treatment. Cost: $8500 per bed

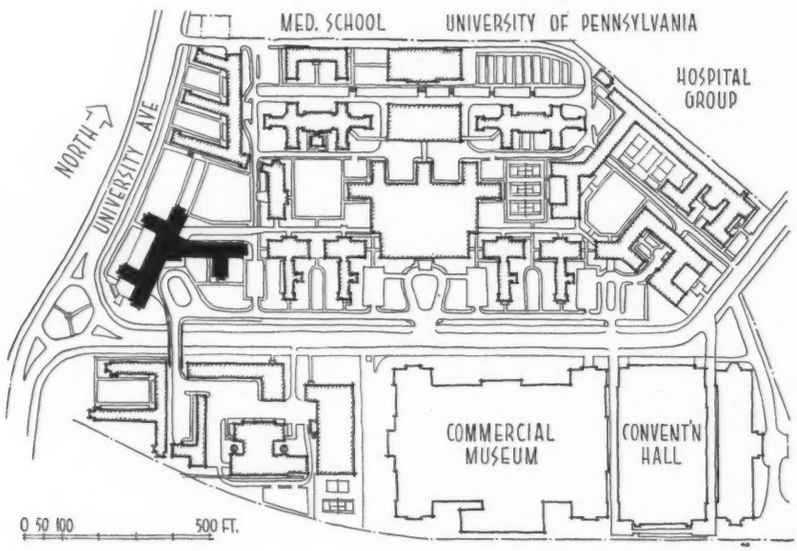
Photo opposite page: Cortlandt V. D. Hubbard



ing could make them entirely separate 4-bed units. Single rooms are provided for disturbed patients or for those needing real quiet. Nurses stations are placed in the reentrant angle between the larger wards to provide close supervision with a minimum staff.

Form of the building comes from restrictive site conditions. The site is in a fairly congested part of Philadelphia, bounded on the north by the University of Pennsylvania and on its other frontages by heavily traveled streets. These limitations, coupled with the desire to develop outdoor recreational areas, made a tall building the obvious solution.

The hospital centralizes all possible facilities. Thus food is prepared in a central kitchen, transported by heated carts to various buildings. A system of double-deck corridors provides both service and other circulation through the whole hospital group. The Neurology Building does not have extensive medical facilities, as



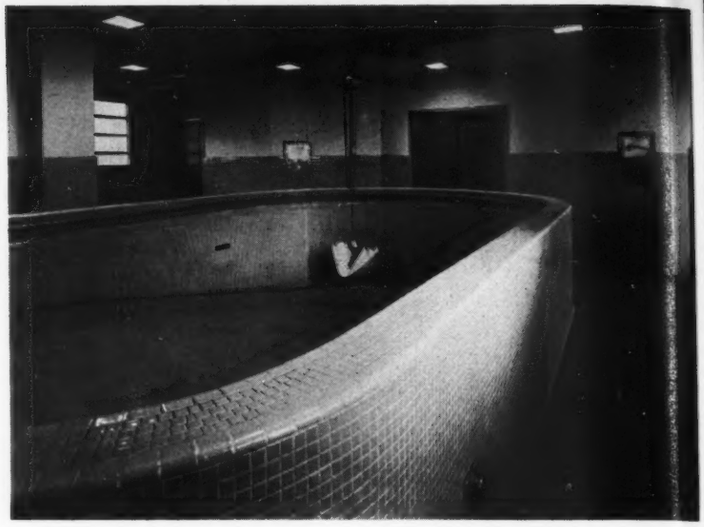




Entrance canopy serves a double entrance — outpatient department on the left, main lobby entrance at the right

Photos: Cortlandt V. D. Hubbard





Photos: Cortlandt V. D. Hubbard

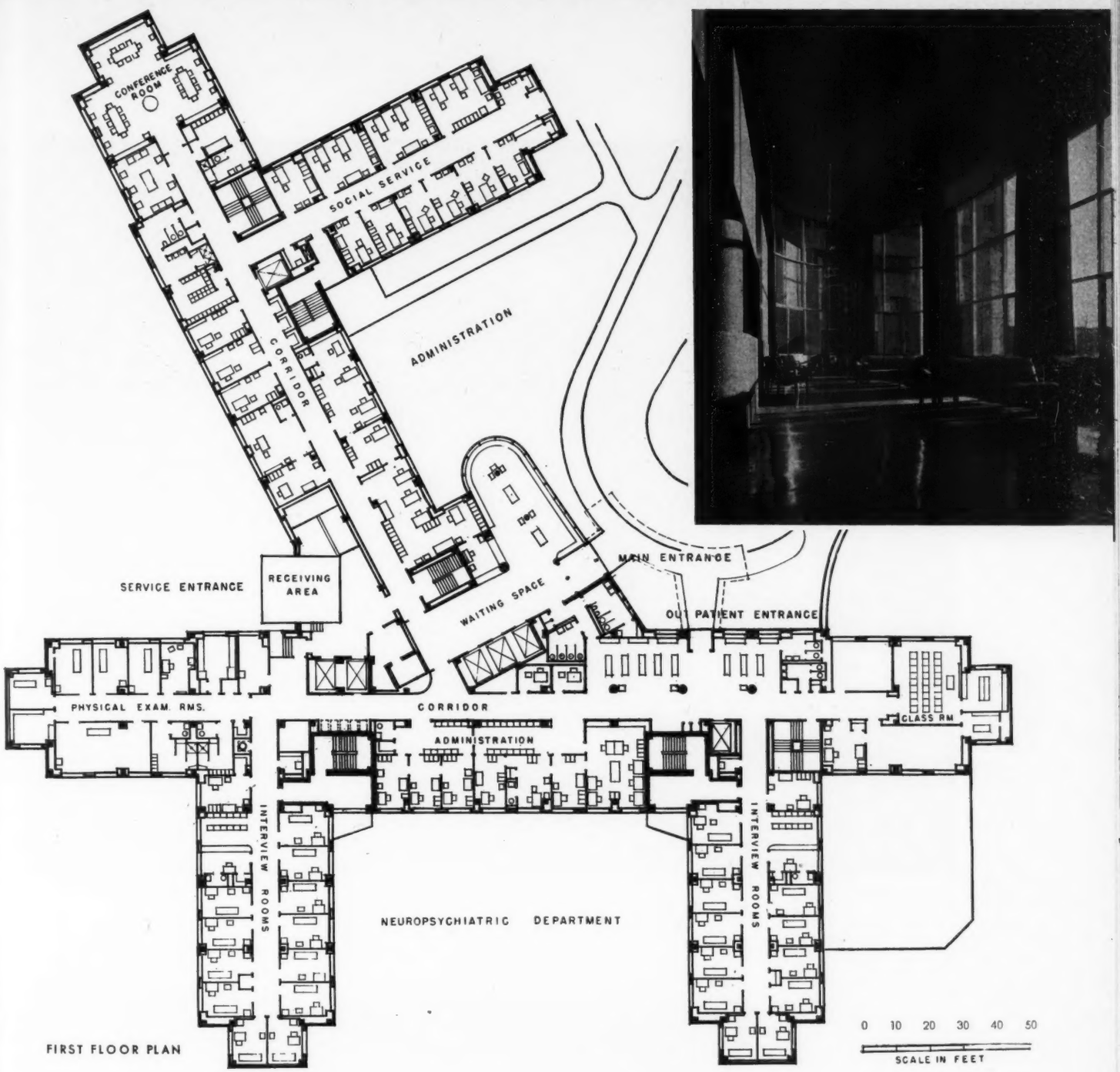
BASEMENT FLOOR PLAN

0 10 20 30 40 50

SCALE IN FEET

Main portion of basement is above grade, concentrates a great amount of physical therapy facilities. Mechanical services and food come from centralized facilities serving the entire hospital group. Occupational therapy facilities are on second floor (plan not shown) and on individual nursing floors





these too are centralized for the hospital. It does have, however, very extensive treatment and interview rooms, hydrotherapy, occupational therapy, and dining and day room facilities.

The building is without a basement in the usual sense. A difference in grade gives full story height to much of the basement level, for gymnasium, hydro room, physical medicine and amphitheater.

Second floor (not shown) is primarily a service level, for food distribution, laundry services, exercise rooms, and various shops which aid in patient rehabilitation.

Nursing floors generally alternate for male and female patients. The eighth floor is special, was originally designed for detention cases, is now to be used for alcoholics, narcotics, and in some instances criminal cases.

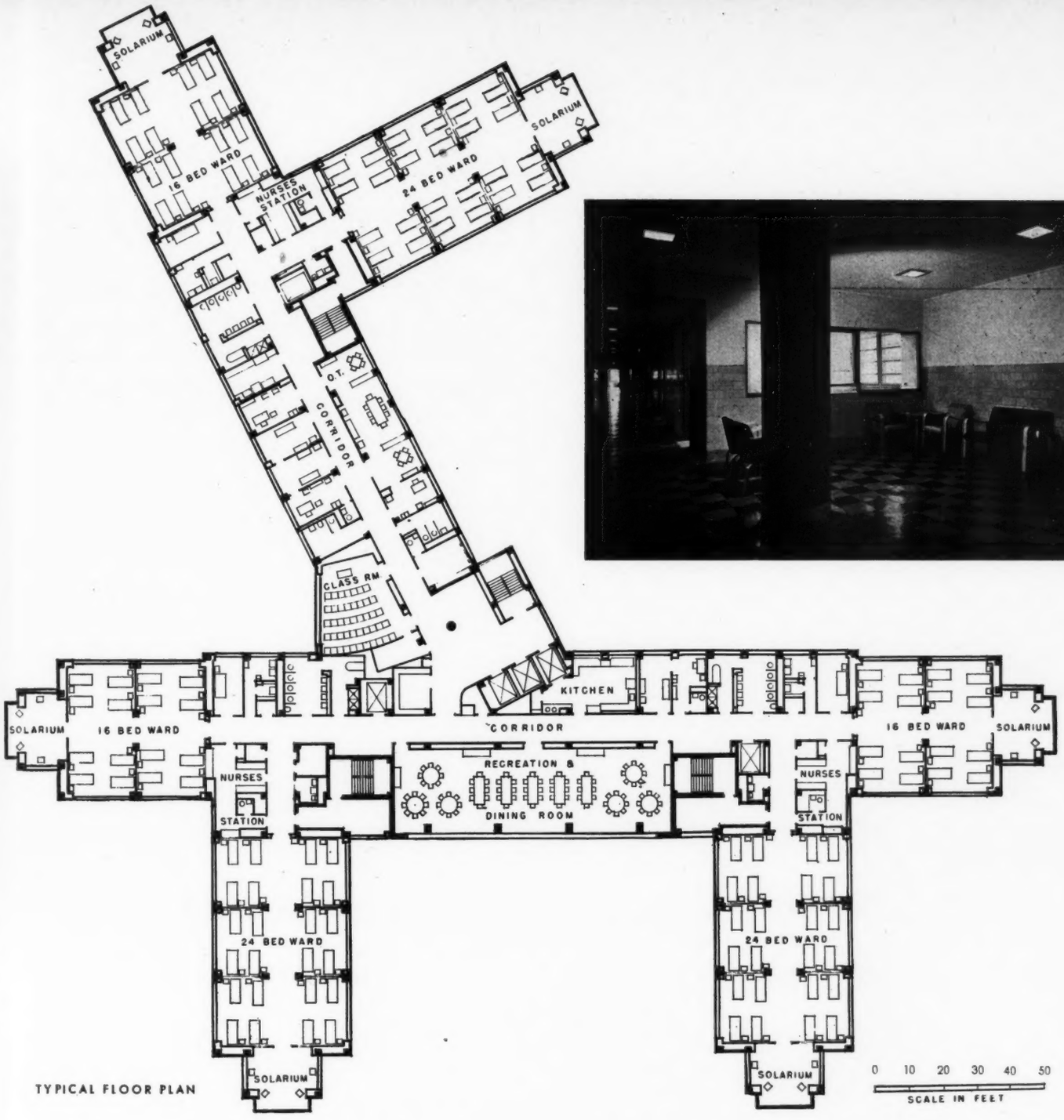
The roof deck, as in most mental hospitals, is developed for recreational areas, is floored with quarry tile and provided with shelter canopies.

Color has been extensively used for both exterior and interior. Sash is gray green, soffits of canopies a chrome yellow, lally columns venetian red. In the interior color was carefully studied for therapeutic value. In general colors are soft; corridor walls are pale yellow, doors natural birch. Wards are pale green, cubicle curtains a green in harmony, beds and cabinets green.



Photos: Cortlandt V. D. Hubbard



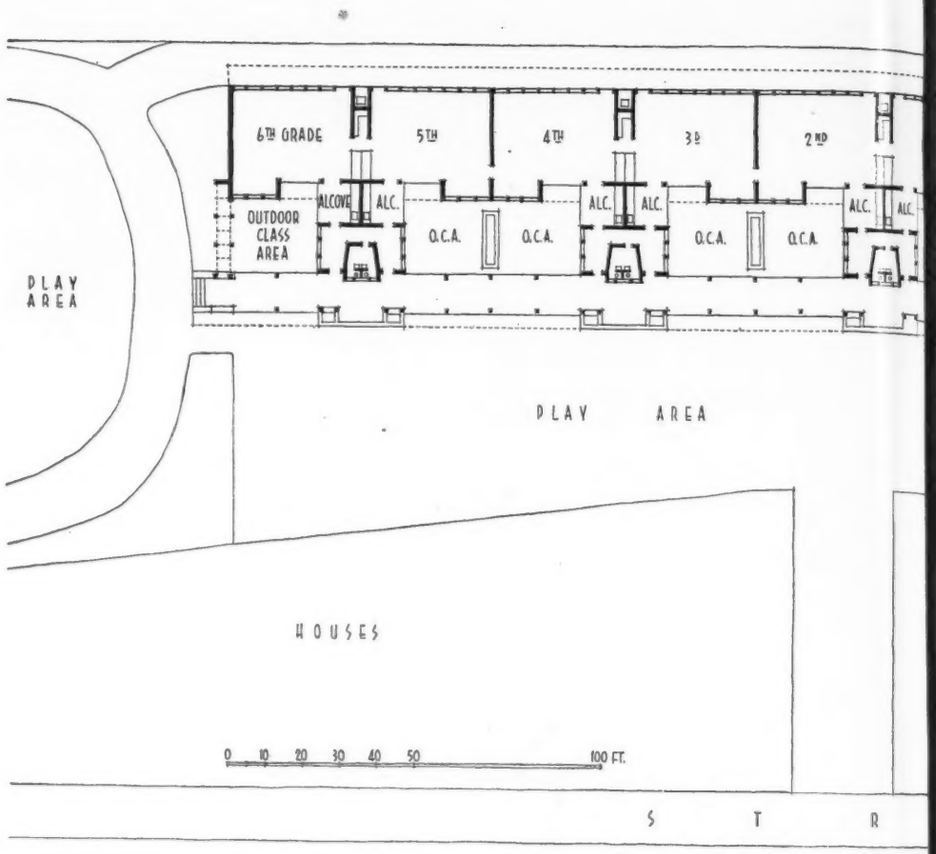


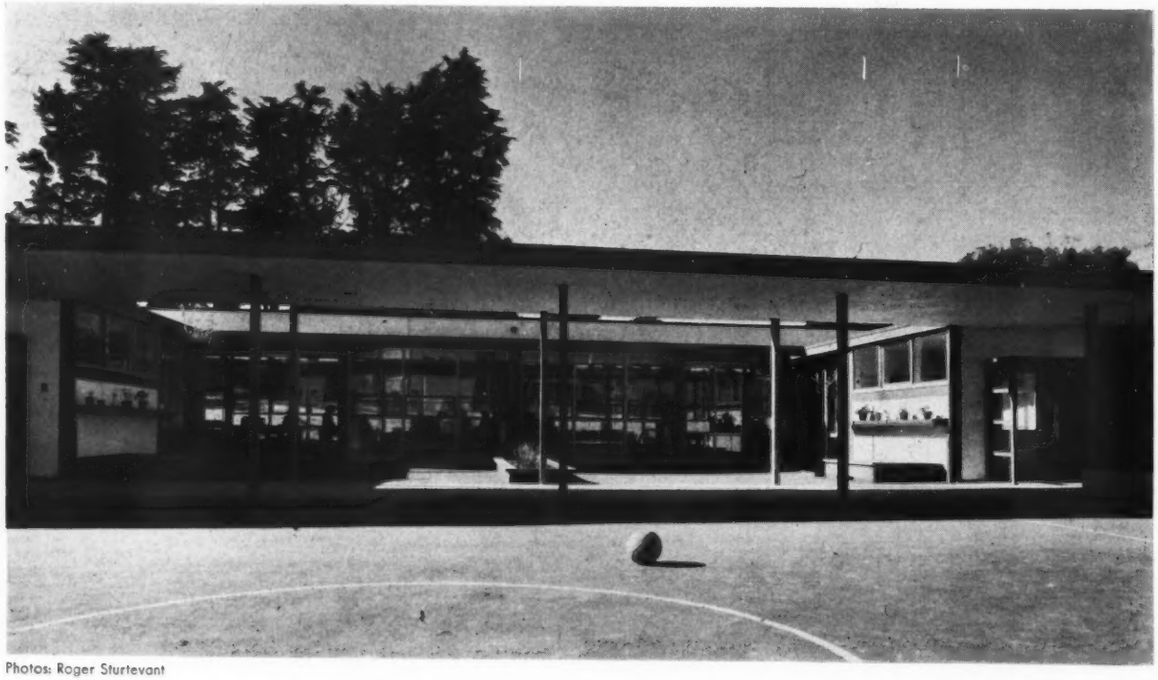
TYPICAL FLOOR PLAN

Nursing floors use large wards, in accordance with general hospital's policy of economy and equal care for all patients. But 4-bed groups are separated by low partitions, can be completely partitioned if need for more privacy proves itself. Floors in wards are terrazzo under beds, linoleum elsewhere. Glazed tile is used extensively for wainscot. Ceilings are of acoustic tile

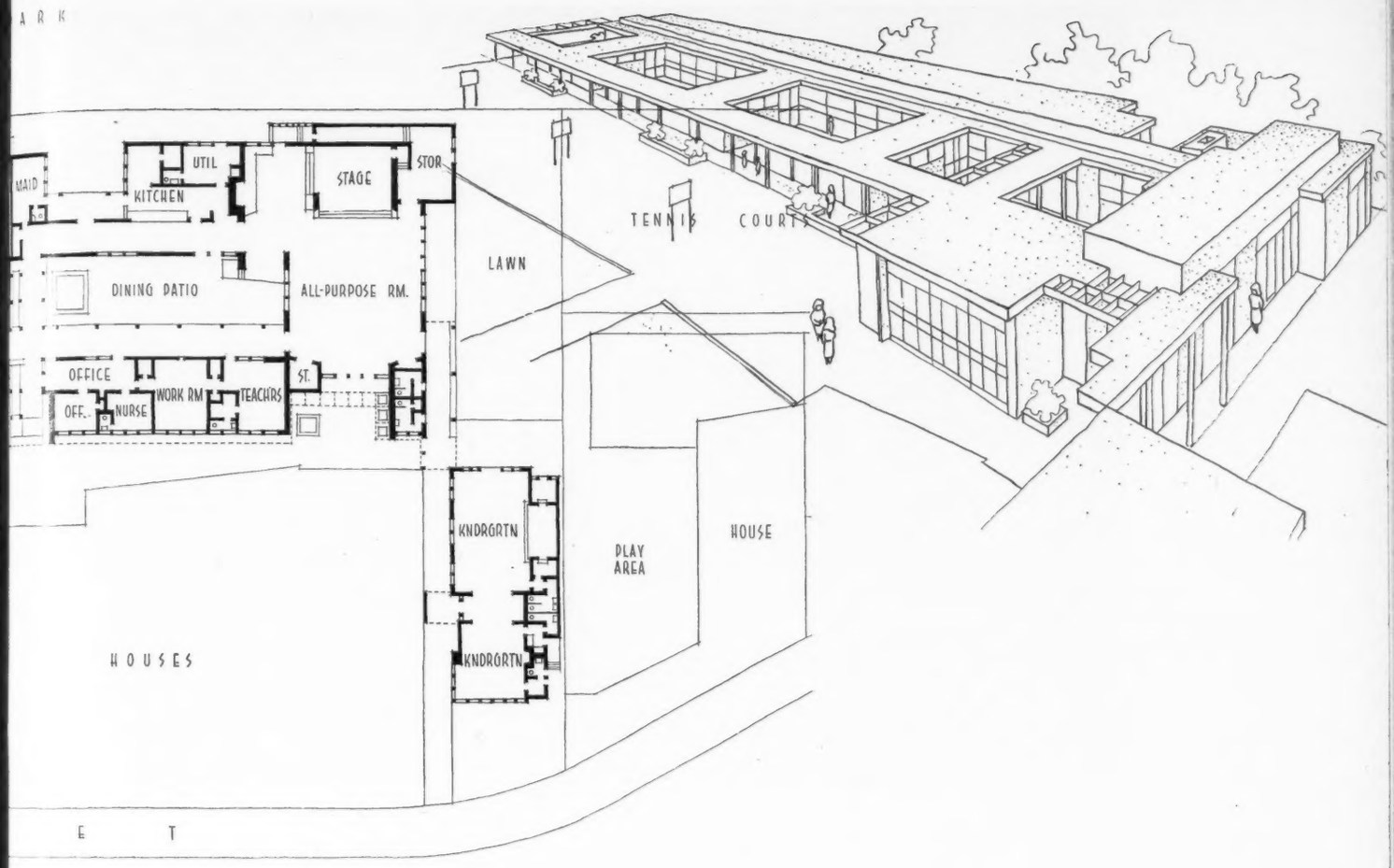


Though completed before the present building materials crisis, this pleasant private school offers many suggestions for design in times of shortages





Photos: Roger Sturtevant



KATHERINE DELMAR BURKE SCHOOL

San Francisco, California

Donald Beach Kirby,

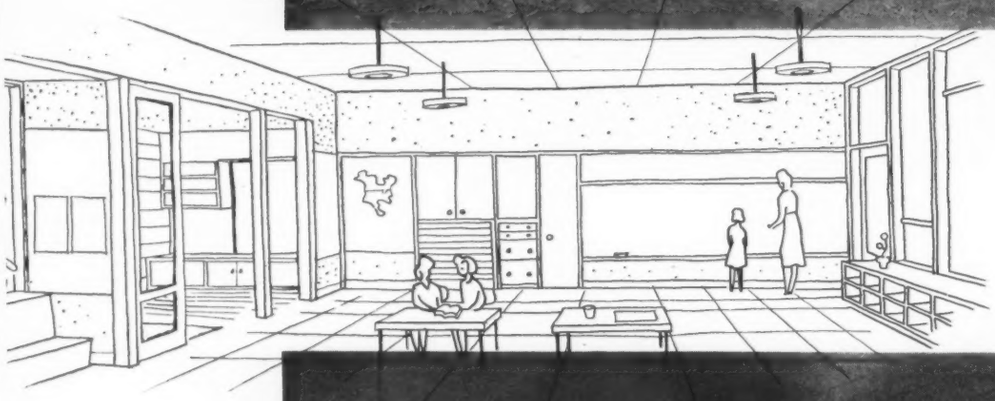
Thomas B. Mulvin, Architects Associated

THIS IS A PRIVATE SCHOOL, for girls only, and the building shown is for classes from kindergarten through sixth grade. Thus its circumstances are somewhat special; nevertheless it comes closer to the ideal of a school designed inside and out for children than most of those an editor sees. Miss Barbara Burke, president and principal, felt that the children should enjoy the informality of modern residential design. The architects, more than sympathetic to her ideas, produced neither a modern "house" nor a residential front for a cold institution. They achieved a more difficult goal: a building frankly an institution, and yet with a heart, an institution designed with understanding of what is appropriate to and what is appreciated by children. You will search in vain for a false note in the concept. There aren't any of the adult whimsies which we so often palm off on our youngsters. There is complete utility in the school's arrangement, and beyond that there is comprehension in its proportioning. It is a simple wood-framed structure, low in cost (about $12.50 per sq ft) for its circumstances, designed with true economy of means but without the sacrifice of essentials.

1



Classrooms, outdoor



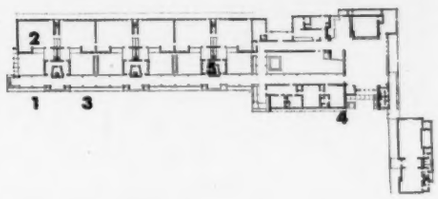
Classroom, indoor

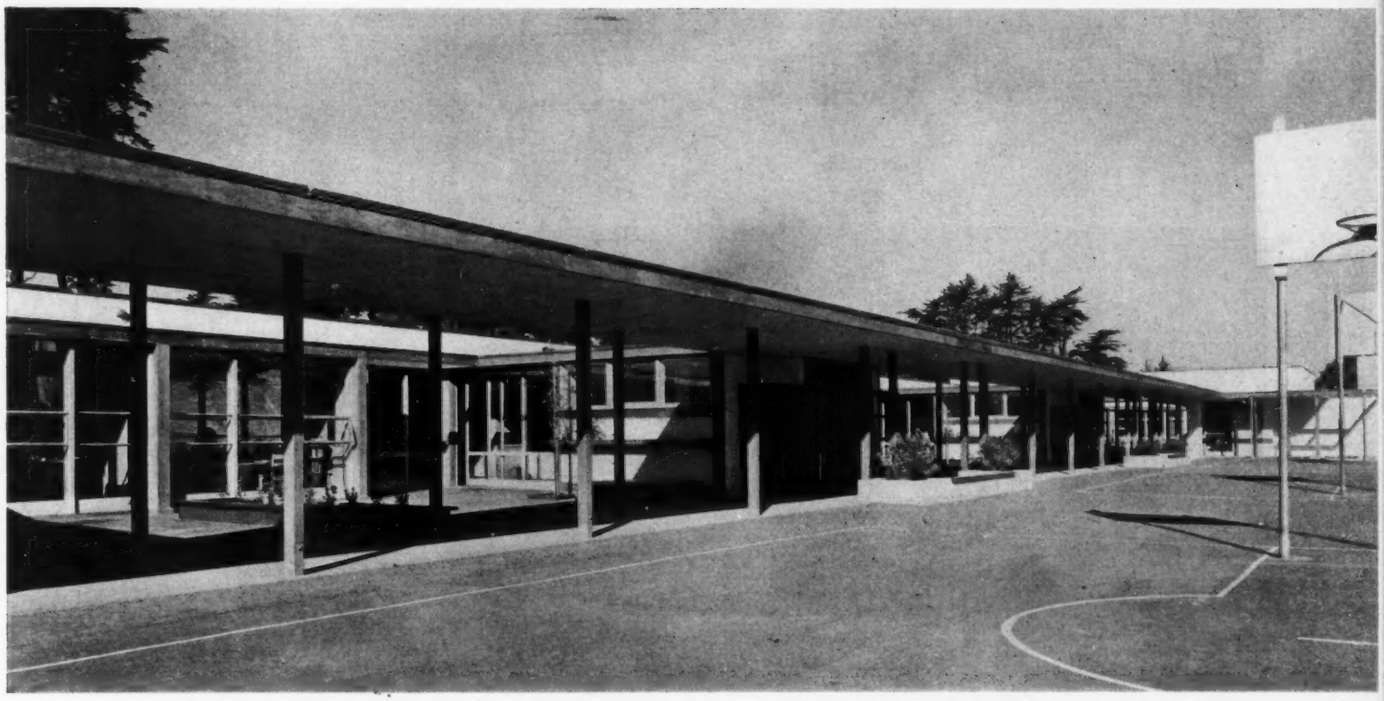
2



KATHERINE BURKE SCHOOL

Part of a long-range project to provide elementary and high school facilities which will be built as property is acquired, this private school has for a site a narrow strip of land in San Francisco bordering on Lincoln Park and the Golden Gate. In the building now finished, a one-story, wood-framed structure with stucco





3

exterior and redwood trim, classrooms for kindergarten through sixth grade were required to be flooded with sunlight, to be up-to-date pedagogically yet decidedly not clinical nor ultra-scientific if this meant sacrifice of human qualities

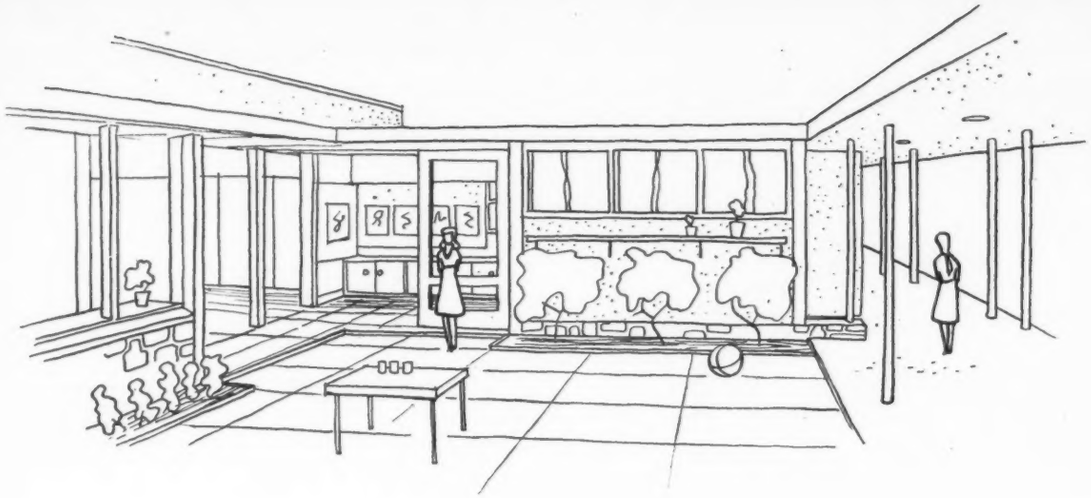
Photos: Roger Sturtevant

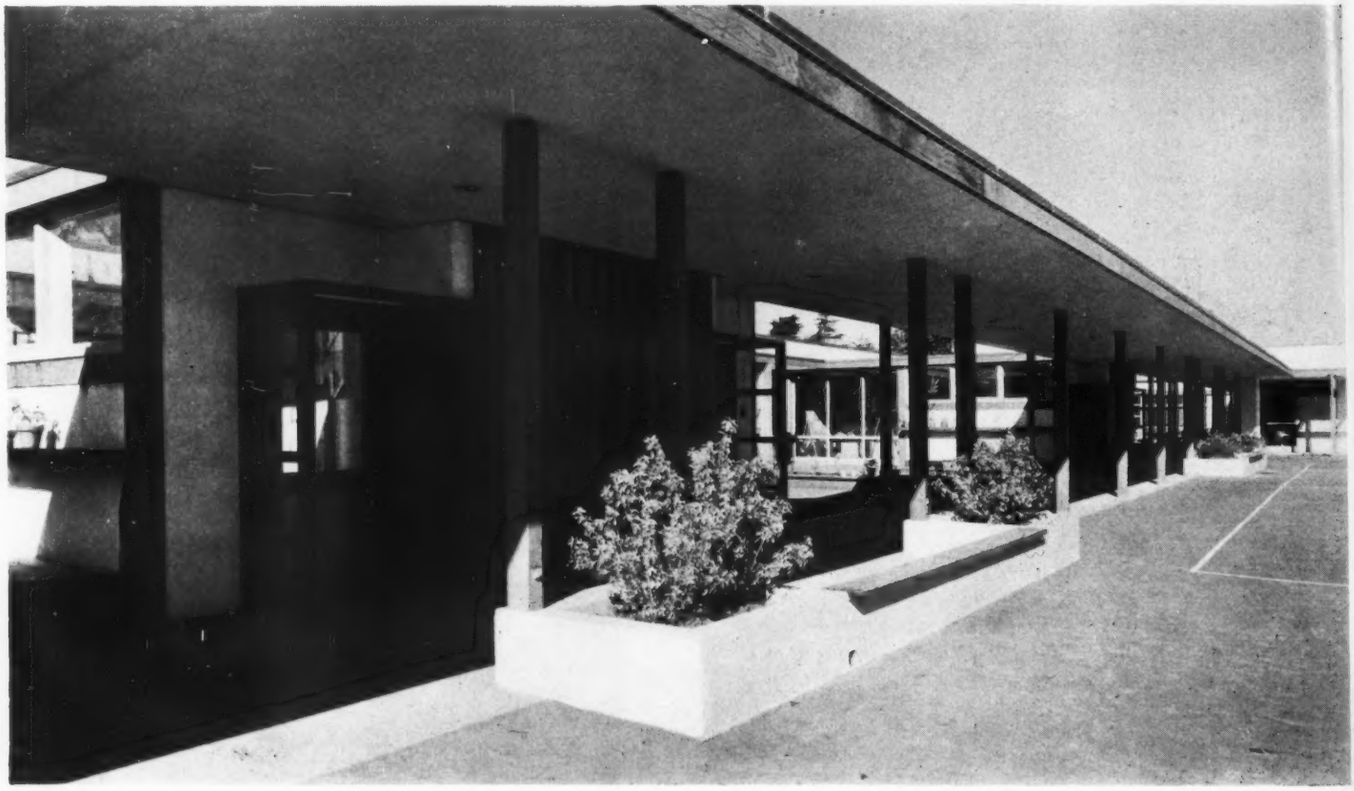


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5





6

Each classroom has a large glass wall facing the park, a sunny project alcove and large sliding glass doors facing south on an outdoor class area, and ample built-in storage space on one wall. The concrete slab floors are covered with asphalt tile. Interior finish is plaster and composition board on walls with birch and vertical-grain fir paneling and trim. Ceilings are acoustical tile. A combination of radiant floor panels and warm air units heats the school. The building is oriented to provide a barrier against prevailing winds, so outdoor areas are comfortable. The all-purpose room is used for recreation, dining, dramatics and meetings. E. Jasper Winnie was the architects' chief assistant; Engelhardt, Engelhardt and Leggett were educational consultants; Harold M. Engle was structural engineer; Clyde E. Bentley, mechanical and electrical engineer. John H. Kelly was project manager.

Between each pair of classrooms, and joining them with the playground, are toilets and coat rooms which help define outdoor class areas. Location of these facilities, and the access to rooms by either covered walk or intercommunicating doors, constitute tacit recognition of California's not always clement weather



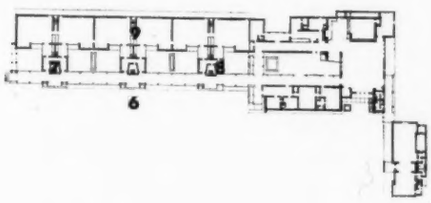
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Photos: Roger Sturtevant

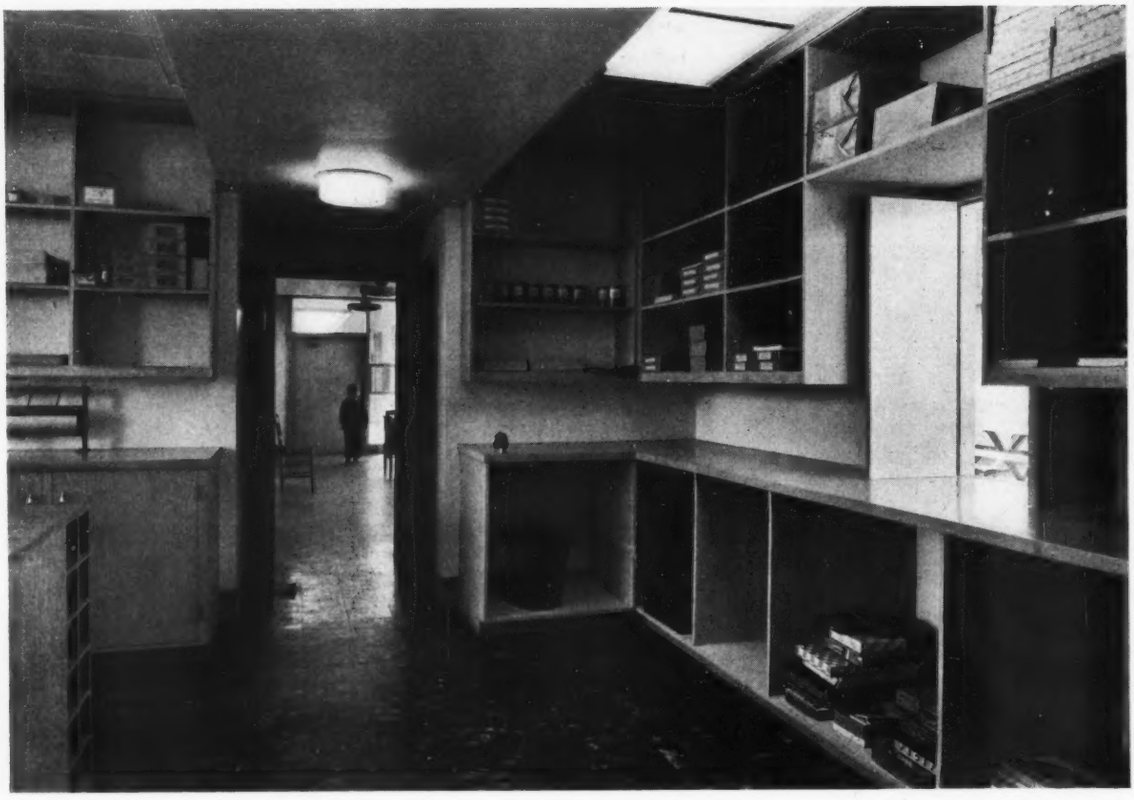
KATHERINE BURKE SCHOOL



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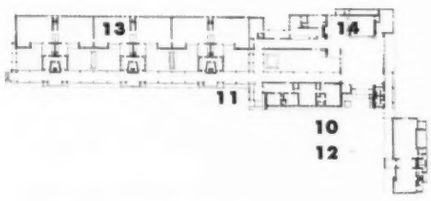


Photos: Roger Sturtevant



10

KATHERINE BURKE SCHOOL





11

Space for supplies in workroom (top of page) is supplemented by storeroom behind stage in all-purpose room. Even the office (right) is a friendly place

12



Workroom



13

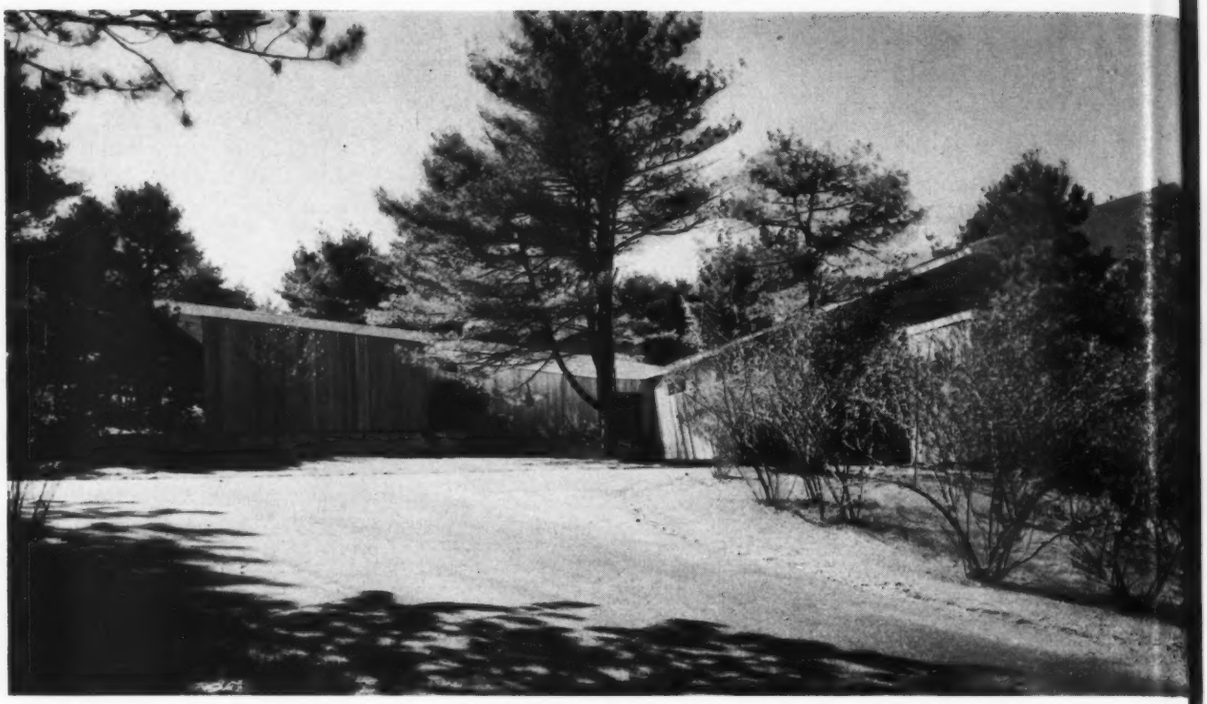
Classroom



Fireplace alcove in all-purpose room; dining patio (sketch) adjoins



14



John Hancock Callender and

Allen & Edwin Kramer

Associated Architects

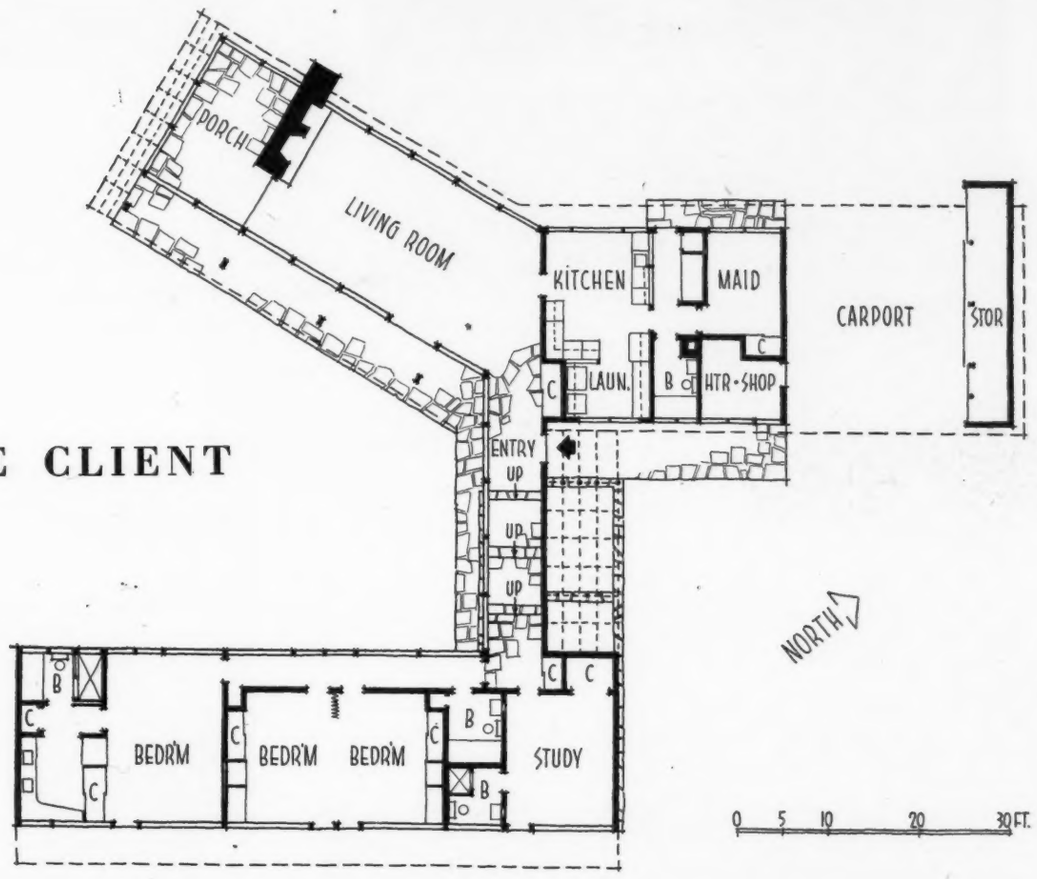
HOUSE DESIGNED FOR A

Upper Brookville, Long Island, N. Y.





Photos: Tom Leonard



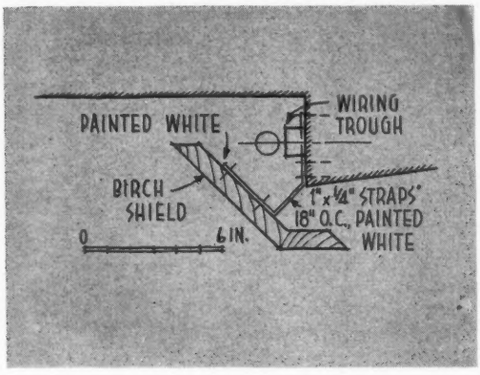
A MAGAZINE CLIENT

THIS EXTREMELY PLEASANT AND LIVABLE HOUSE, officially known as "House & Garden's House of Ideas," suggests one idea that is perhaps especially worthy of note. Its design seems to indicate a careful fusion of many better qualities of two widespread style influences — the crisp, clean lines of the International Style, and the rambling openness of the popularized Ranch House Style. Yet, it has eliminated the severity of the one, and the ungainliness and awkward combination of materials frequently found in the other. The house was conceived and sponsored by *House & Garden Magazine* in collaboration with John Hancock Callender and Allen & Edwin Kramer, Associated Architects, and constructed by Cy Williams, Inc. The landscape architects were Umberto Innocenti and Richard K. Webel.

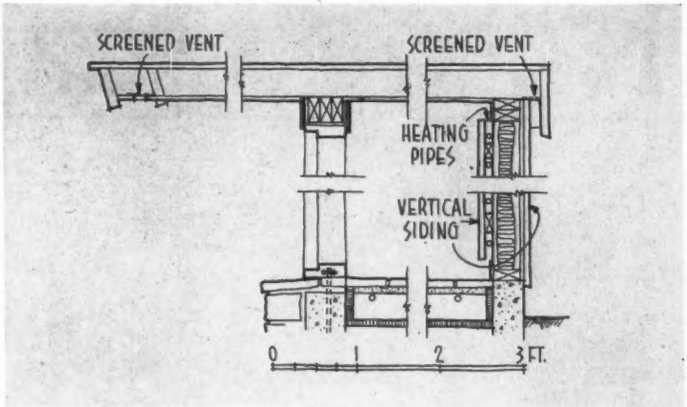


Photos: Tom Leonard

HOUSE FOR A MAGAZINE CLIENT



The entrance facade (left) has a closed-in look, was planned to give dramatic impact as front door opens on vista of outdoor courtyard. Entrance corridor (below) connects bedroom and living room wings, serves as transition in grade levels. Difference in corridor and living room ceiling heights is concealed by light trough (detail above). Entire house is heated by radiant coils in floors, supplemented in corridor by coils behind wall panel (below left)





Careful, well studied planning and detailing are conspicuous throughout the house. Exterior walls are vertical cypress planks finished in clear creosote; trim is painted crisp black and white. The roof is of a special built-up type, consisting of aluminum foil, vegetable mastic and white marble chips. Rough stone is sparingly used to edge planting areas and for the chimney.

The house was planned for an "average family of four," and consists of three distinct wings for living, sleeping and service facilities, disposed around a central outdoor living area. A great sense of space and openness exists in each of the rooms, brought about chiefly by use of half partitions, glass panels, and window walls. Each room also has its own outdoor terrace.

Interior walls and ceilings are finished with painted gypsum board; floors are concrete slab, finished with flagstone or one of a variety of tiles. Interior furnishings were done separately by Macy's, New York. Heating is by copper tube radiant floor panels, split into three zones with outdoor bulb and indoor thermostat controls. The boiler is oil fired. All walls, ceilings and slab edges are insulated. An intercommunication system is installed throughout the house. Flush downlights are used in most of the rooms.

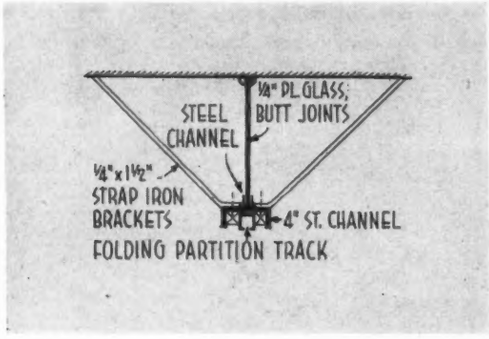




Space is added to living areas by covered walk, porch and central courtyard. Panels at top and bottom of window walls open for ventilation. Photo below: side exterior view of carport, kitchen, living room



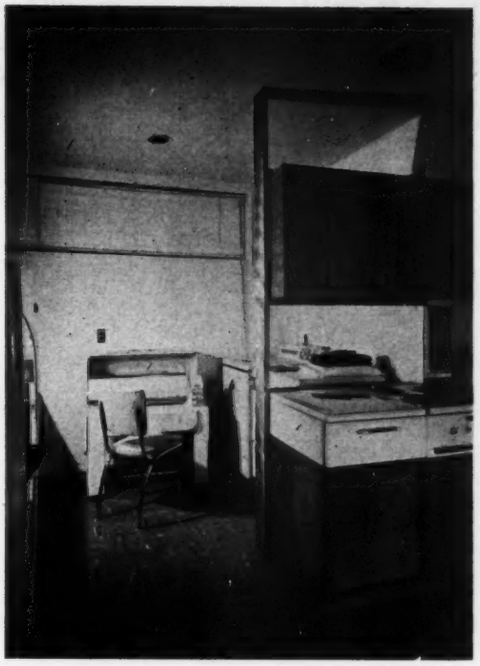




Children's bedroom (above) can be divided by folding partition; a glass panel (detail above) simplifies problem of joining track with sloping ceiling. Master bedroom is separated from dressing room by two-way closet (two photos right). Each bedroom has terrace



The sense of openness which carries through entire house is continued in kitchen by use of suspended cabinets, plate glass behind range and sink (right, top and bottom). A larder is provided adjacent to service entrance for storage of groceries. Exterior view (below) shows bedroom wing at left, service wing at right



Photos: Tom Leonard

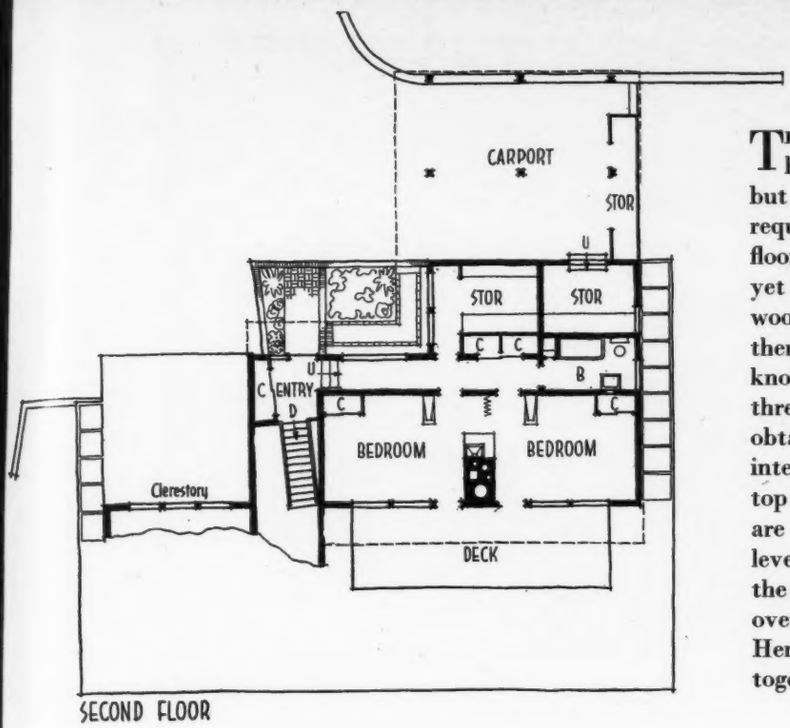










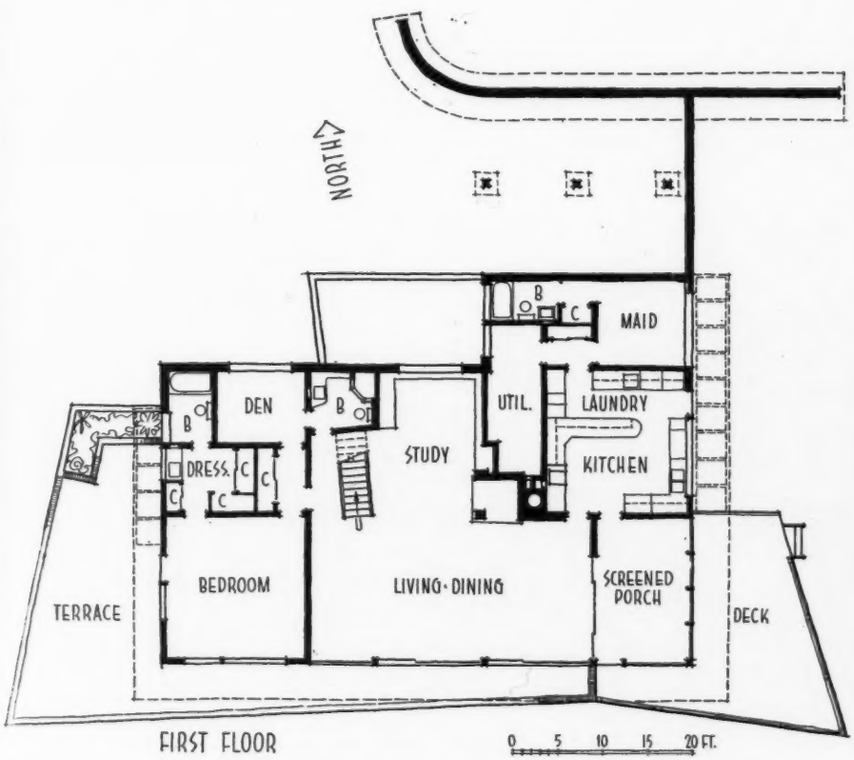


SECOND FLOOR

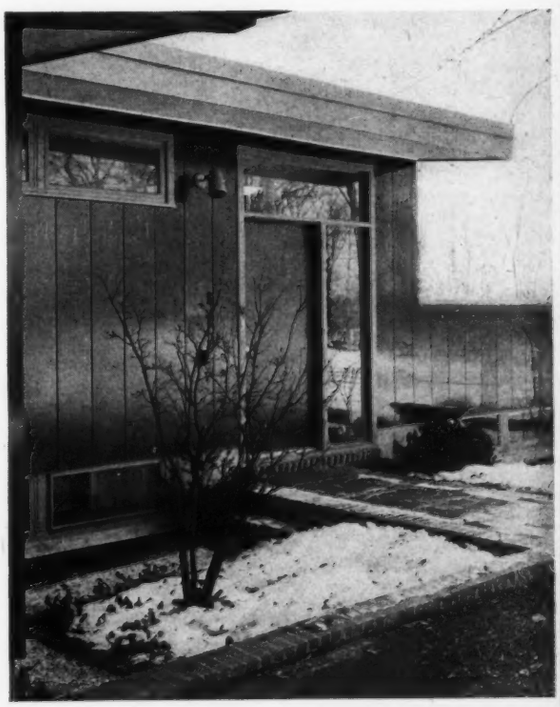
THE CASCADING FORMS and roof lines of this hillside house not only express the character of the setting, but also reflect skillful handling of the client's basic requirements. The owners desired an essentially one-floor house, secluded from the main road at the front, yet affording terraces for all rooms and good views of woods, creek and waterfall to the rear. The house was therefore kept low at the front, and placed where a knoll shields it from the road. Rooms were divided into three levels. Principal areas are on the lower floor to obtain the best views; entry and carport are on an intermediate level. The children's bedrooms are on the top floor, where they may be closed off when the children are away at camps and schools. The variety of roof levels provides a series of open decks, a clerestory for the master bedroom, a skylight for the open stairs, and overhangs for all windows. The site was landscaped by Henry Fletcher Kenney, with the idea of blending together the house and the woods.

SPLIT-LEVEL HOUSE FOR CINCINNATI, OHIO

Residence for Mr. & Mrs. J. Ralph Corbett — ***Carl A. Strauss, Architect***

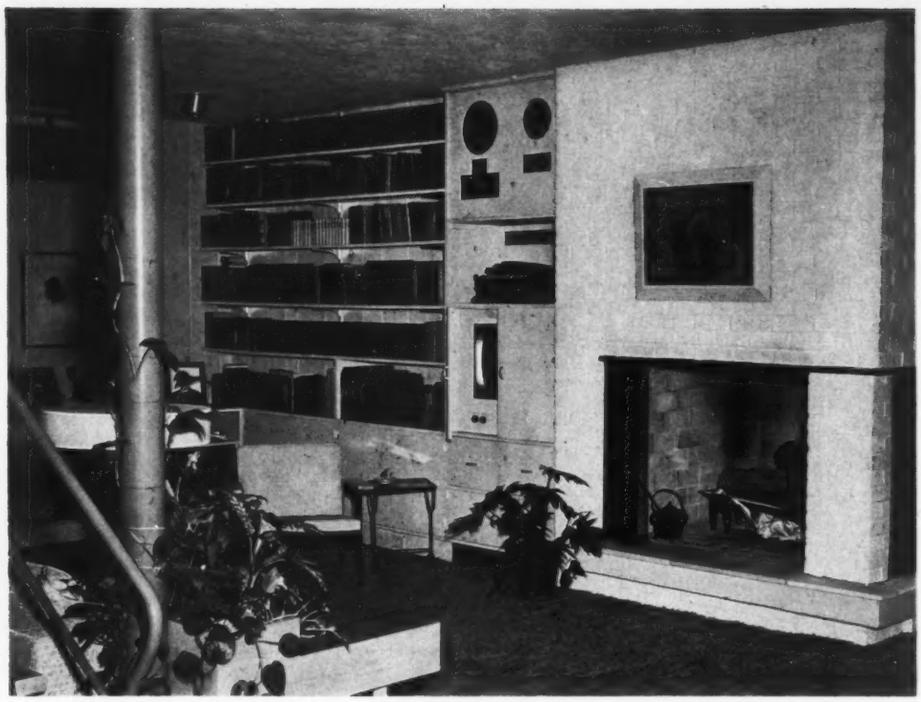


FIRST FLOOR

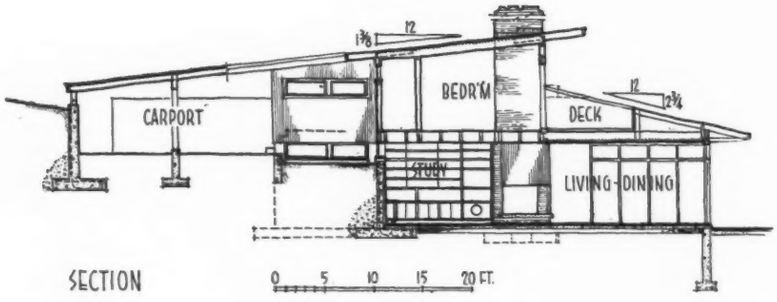


The house is built on a concrete slab, with wood frame construction. Exteriors are natural finish redwood. Trim is painted blue-gray

Photos: George Stille



SPIT-LEVEL HOUSE



Principal living areas form single, open room with two walls of sliding sash. Corner fireplace is visible from all parts of room. A convertible screened and glazed porch beyond dining area has combination heating and lighting units in ceiling to permit year-round use. The rest of the house is heated by radiant ceiling panels. The furnace is oil fired. Study alcove and stair well are pine paneled, other walls plaster



Photos: George Stille

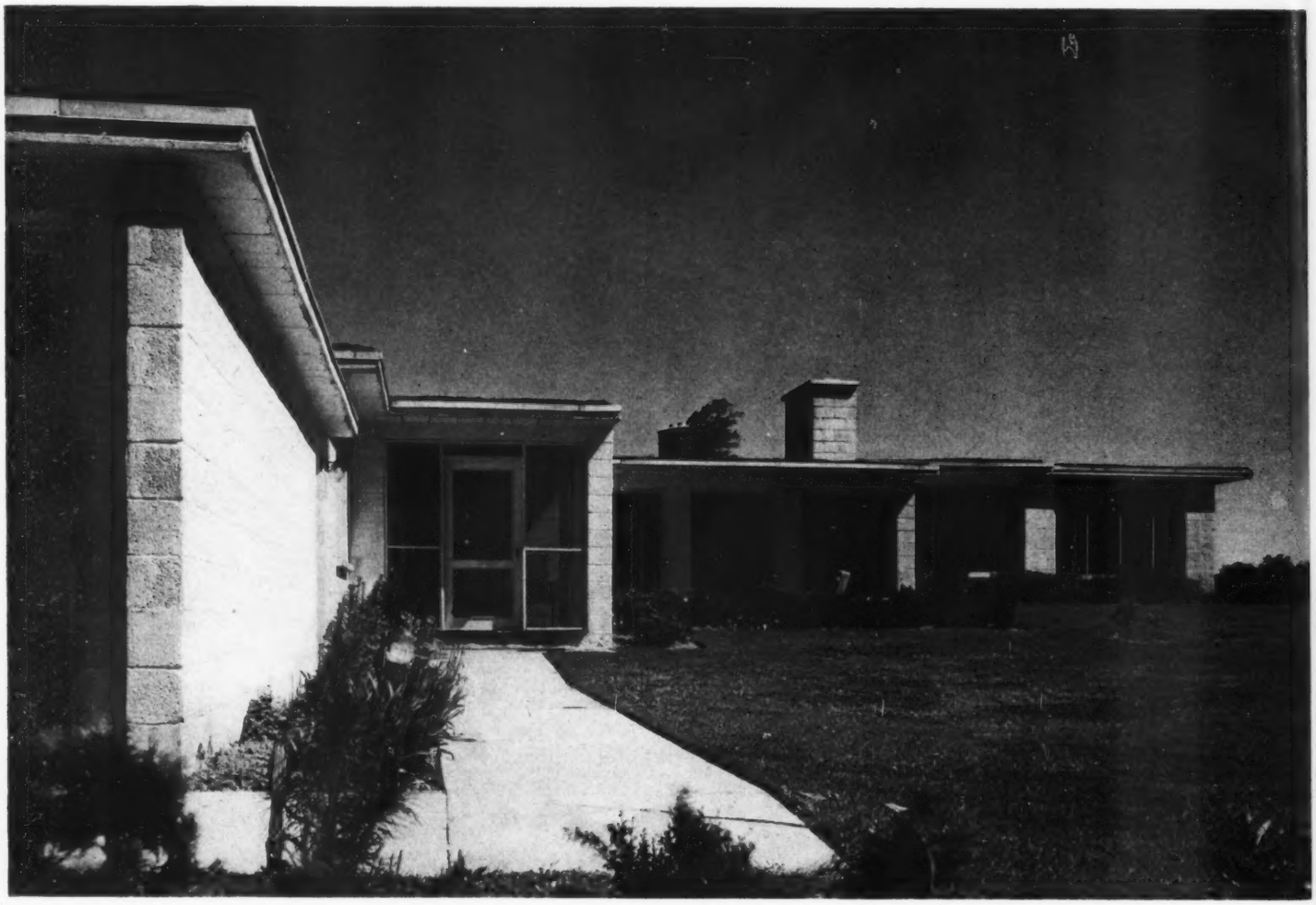


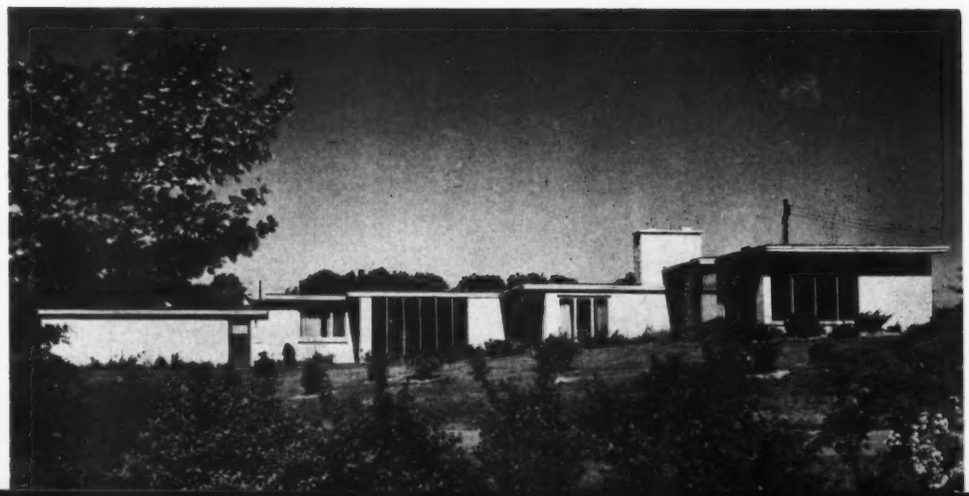


Kitchen (right) is placed to serve both dining area and screened porch. A service entrance in the laundry portion opens onto a drying yard with steps up to carport. A built-in charcoal grill in the kitchen uses central chimney. Concrete slab floors are carpeted in the main living area; other areas are covered with asphalt or plastic tile. Recessed ceiling fixtures, some with flexible swivel lights, are controlled by low voltage switches. Master control panels are in upper hall and in the master bedroom. Bedrooms have built-in air conditioners



Photos: Joseph Molitor





HOUSE MAKES THE MOST OF STOCK MATERIALS

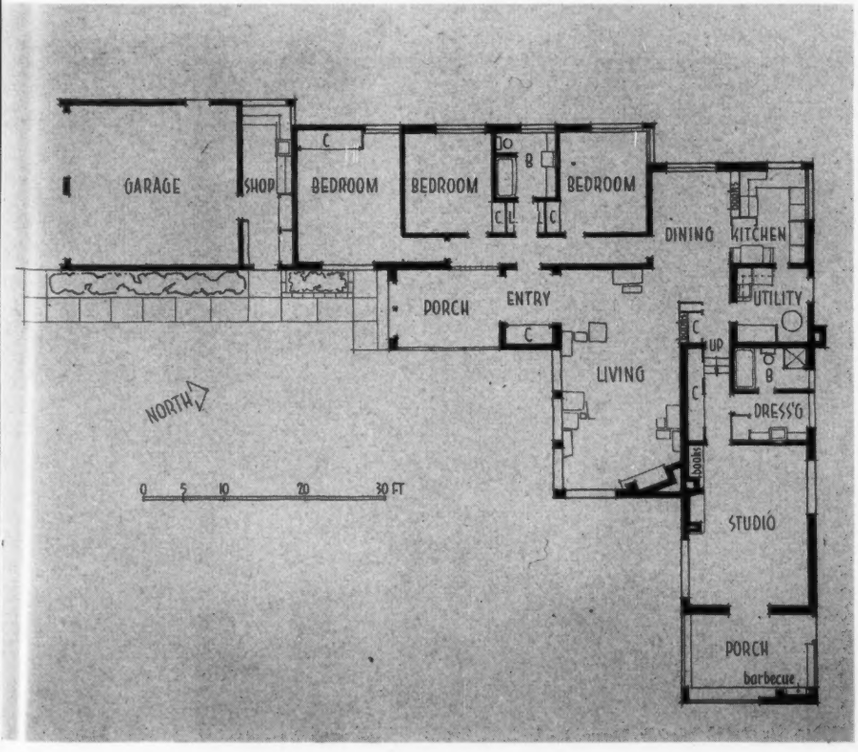
Residence for Miss Veronica McCarthy

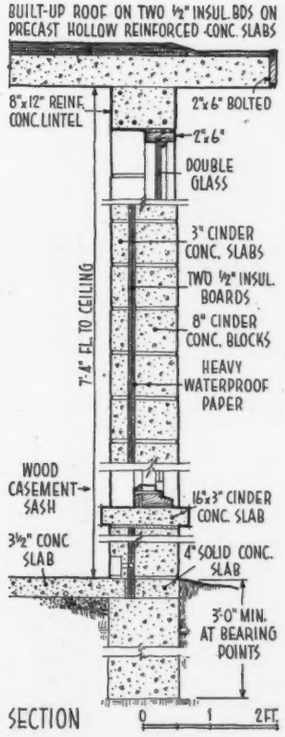
Fairport, N. Y.

Don Hershey, Architect



AN UNUSUAL AMOUNT of space and equipment at a cost of little more than half that of neighboring residences of similar size was provided in this simply designed house. Results of the architect's idea that construction costs could be lowered substantially by reducing the number of structural components involved are evident throughout the house. Only standard stock materials are employed, as in wall section, below right. The house is, in effect, designed to fully exploit these materials in the most straightforward and economical manner possible. The simplicity and logic with which the materials were treated made both for a low-cost, livable home and also for direct and uncomplex relations between architect and contractor. The ultimate benefactor of course was the client, who was afforded a maximum of space and conveniences for his expenditure. In addition to this, the direct expression of materials — cinder block, prefabricated concrete slabs, Vermont slate — without costly finishes results in a house as pleasingly simple as it is practical.









Simplicity with which materials are combined is evident in entrance hall, above, and master bedroom, below. Prefabricated cabinets are used throughout







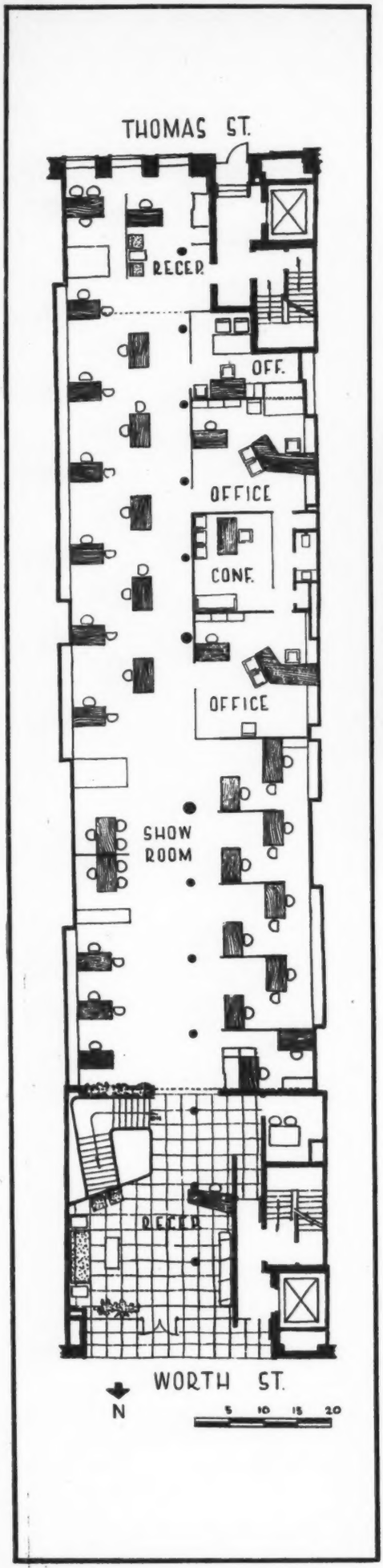
Living room, above center, and dining room, above right, are adjoining. Comfortable, uncluttered appearance of studio, below left and right, is effected by generous storage facilities

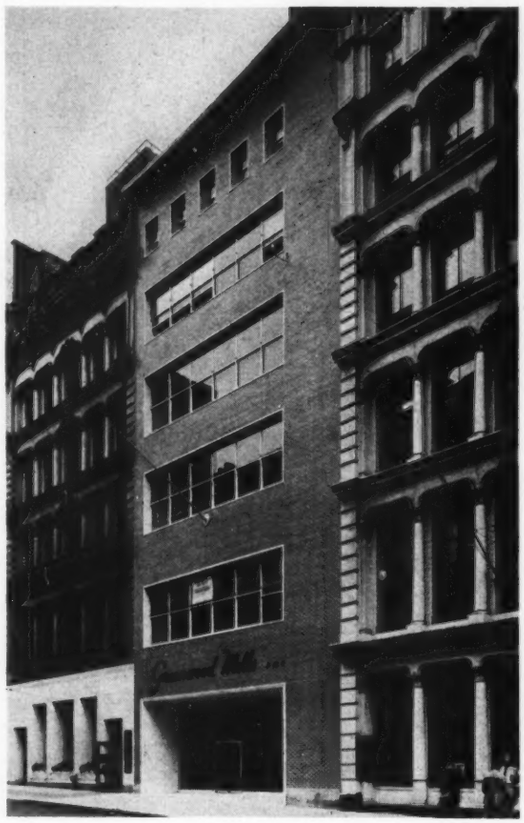


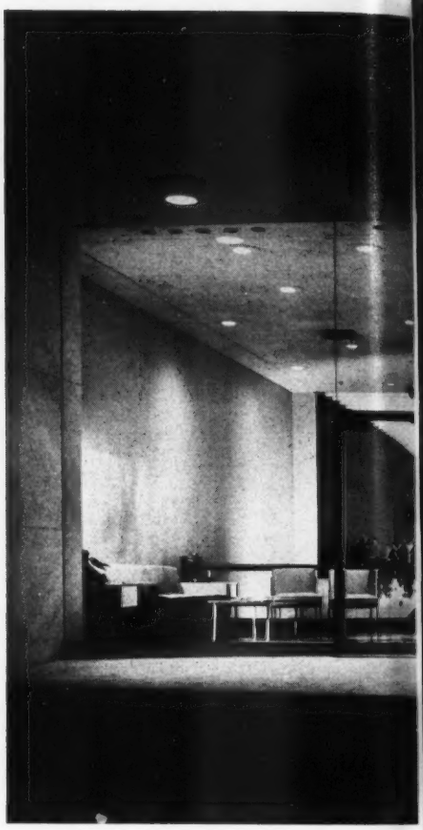


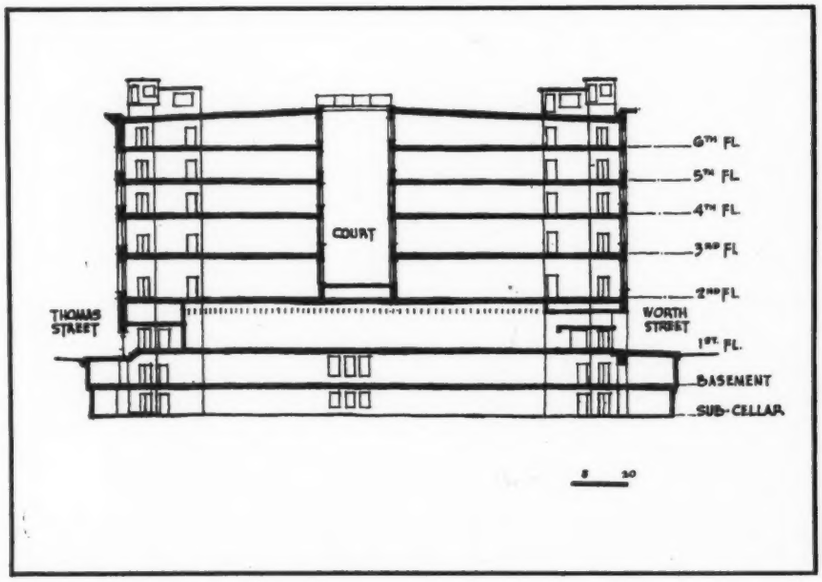
Photos: Joseph Molitor

REMODELED OFFICES









GIVE LIFT TO OLD TEXTILE AREA



Photos: Richard Garrison



Beeston and Stott, Architects

Beeston-Stott-Patterson, Designers

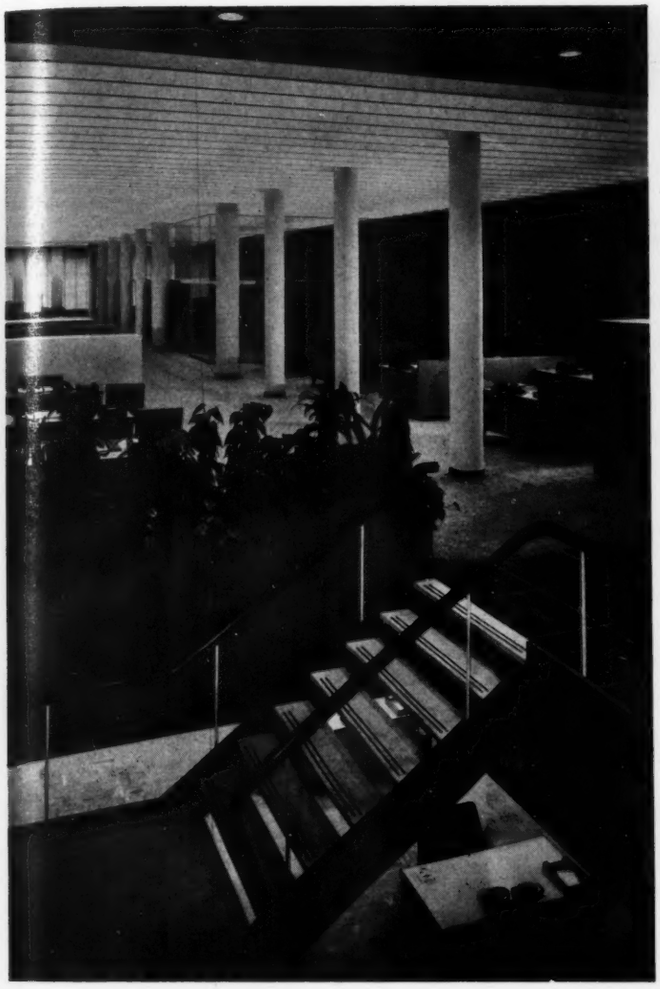
THE GROWING TREND of competitors to relocate uptown in the big buildings of New York's congested West 30's and 40's led Greenwood Mills, Inc., to carefully analyze their own position. Their New York sales rooms and offices were housed in a narrow, cast iron front, post Civil War structure that was almost identical to its neighbors. It was located in the heart of the old wholesale textile district where the uptown movement had lessened realty values — and the traffic problem. The final decision to remain and completely remodel the building has helped considerably to add to the prestige of both the district and the firm.

The architects and designers succeeded in providing a series of inviting, open interiors from the long, narrow plan, which had a row of cast iron structural columns through the center. As a light court divided the upper portion of the building, it was decided to provide a separate entrance to the front half so it could be rented. The front of the building was replaced with a new facade of soft blue-green matte-glazed brick and white marble trim. The Thomas Street facade was provided with a new entrance and painted the same blue-green. New stairways, elevators, toilets and air conditioning were installed throughout the building.

The reception lobby (below) leads directly into main sales and office area. Interior colors and textures were carefully studied; greens and browns were used throughout, with coral and yellow accents

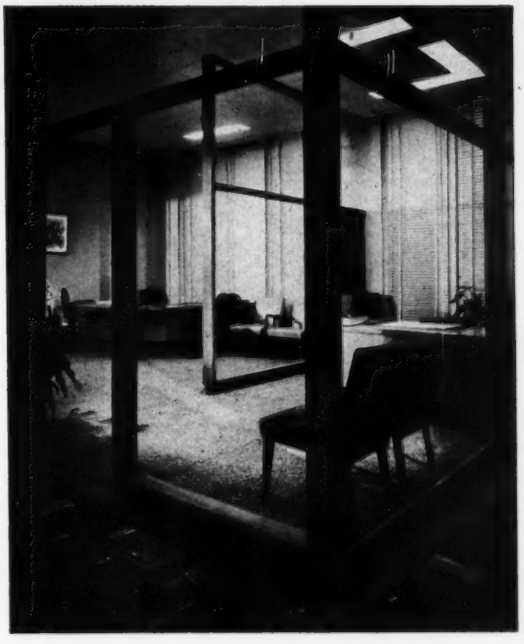


The stairway shown above and upper right, was planned to be as open and attractive as possible to permit use of basement as a sales area. Besides the general interiors, the design contract included the special louvered ceiling, most of the desks, the wall cabinets, and such accessories as blotter pads, letter trays and waste baskets. Side walls were furred out to hide pipes and pilasters, recess new cabinets

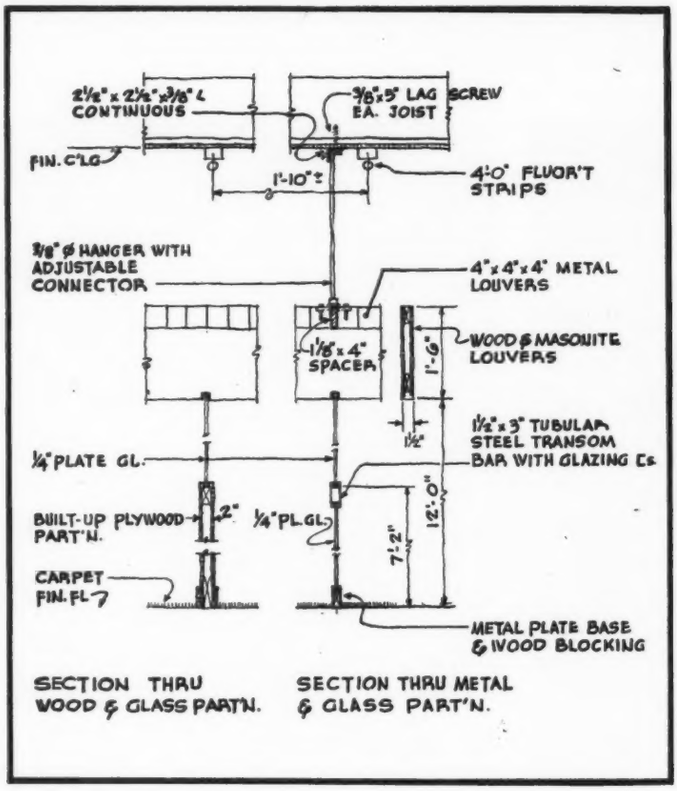




Photos: Richard Garrison



Open planning and glass partitions are also used in upper floors, as in second floor office at right. All floors are surfaced with asphalt tile, rubber tile, or carpet. Walls are plaster, with many surfaced with plastic or textured fabric



Detail above shows sections through typical office partitions and through the louvered ceiling of the main floor

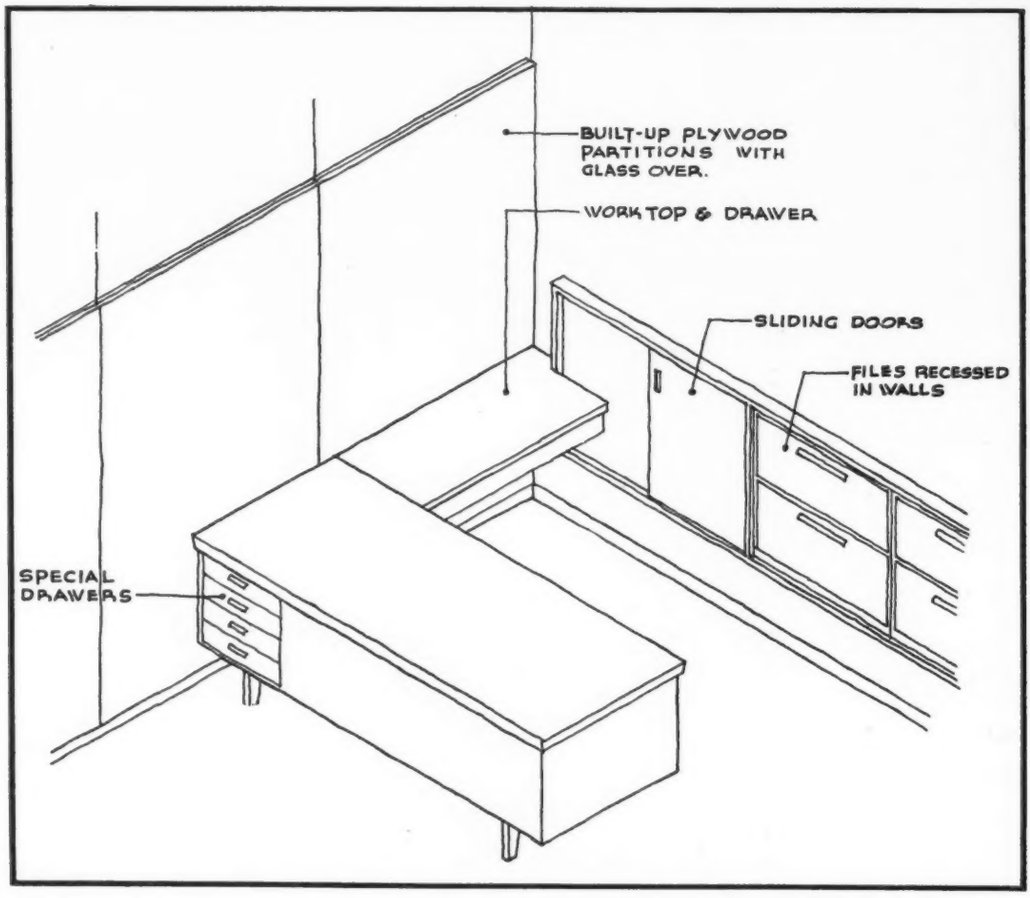
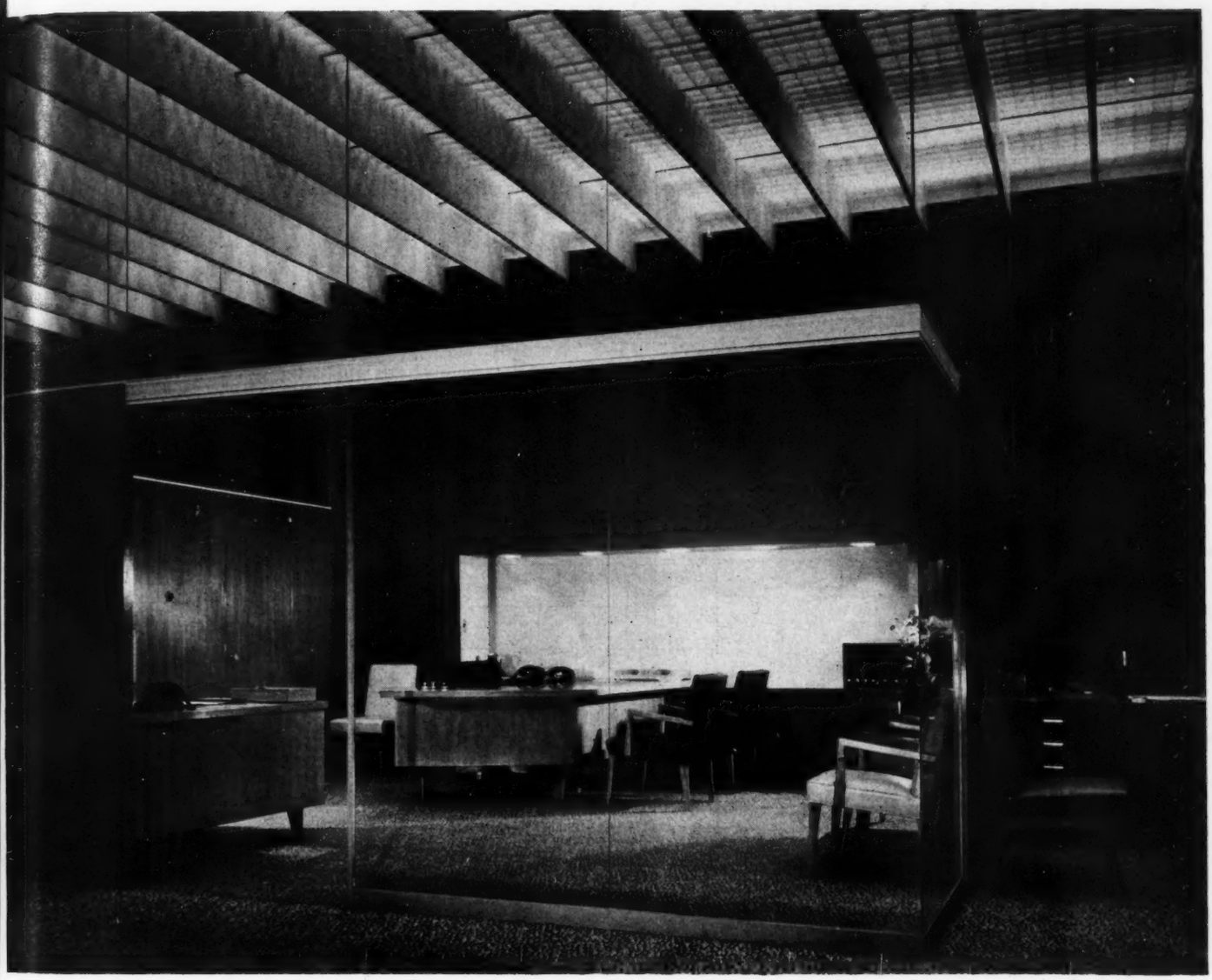
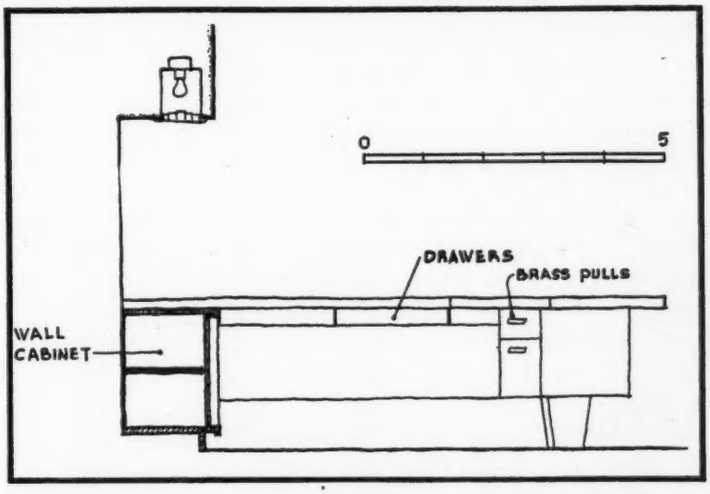




Photo: Richard Garrison



The president's office (above) is in the center of the main floor, and planned at his request to be as open as possible yet give a reasonable amount of privacy. This was solved by using glass and thin wood screens. Detail of president's custom-designed desk is shown right. Sketch at left shows arrangement of junior executive's desk (visible at right in photo)



EXPANDING STORE CREATES DESIGN PROBLEM

Carol Antell, New York City

Seymour R. Joseph of Joseph and Vladeck, Architect

THIS NEW YORK SPECIALTY SHOP has approximately tripled its area since it first opened. Its method of expansion was unusual: first, half the ground floor of a former garage was acquired; then a year later a two-story building two doors away was added; and finally the two were linked together. The three-phase development provided an interesting design problem for the architect, and his solution brought him the First Award in the commercial classification at the 1950 convention of the New York State Association of Architects.

First part of the project was the Accessory Shop (extreme right on plan and sketch, photos on pages 158–159). Designed for the display and sale of costume jewelry, blouses and handbags, it is straightforwardly open, with cases lining both long walls. Much of the display area is in the deep entrance arcade, which has a large circular showcase as well as counter-height cantilevered cases on both walls.



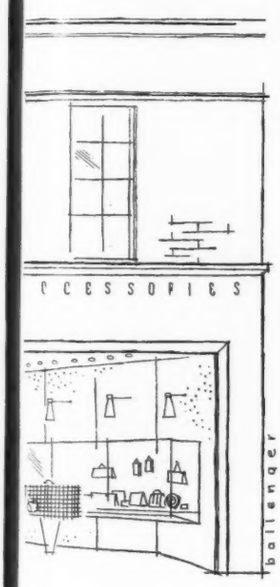
Next came the Sportswear Shop (left on plan and sketch, photos on pages 160–161), which occupies all of the two-story building. Everything about this shop was designed to suggest the outdoors — the two-story arcade, the flagstone floor, the tree growing out of the show window, and the pool in the rear of the store. (Offices and stockrooms are on the second floor.)

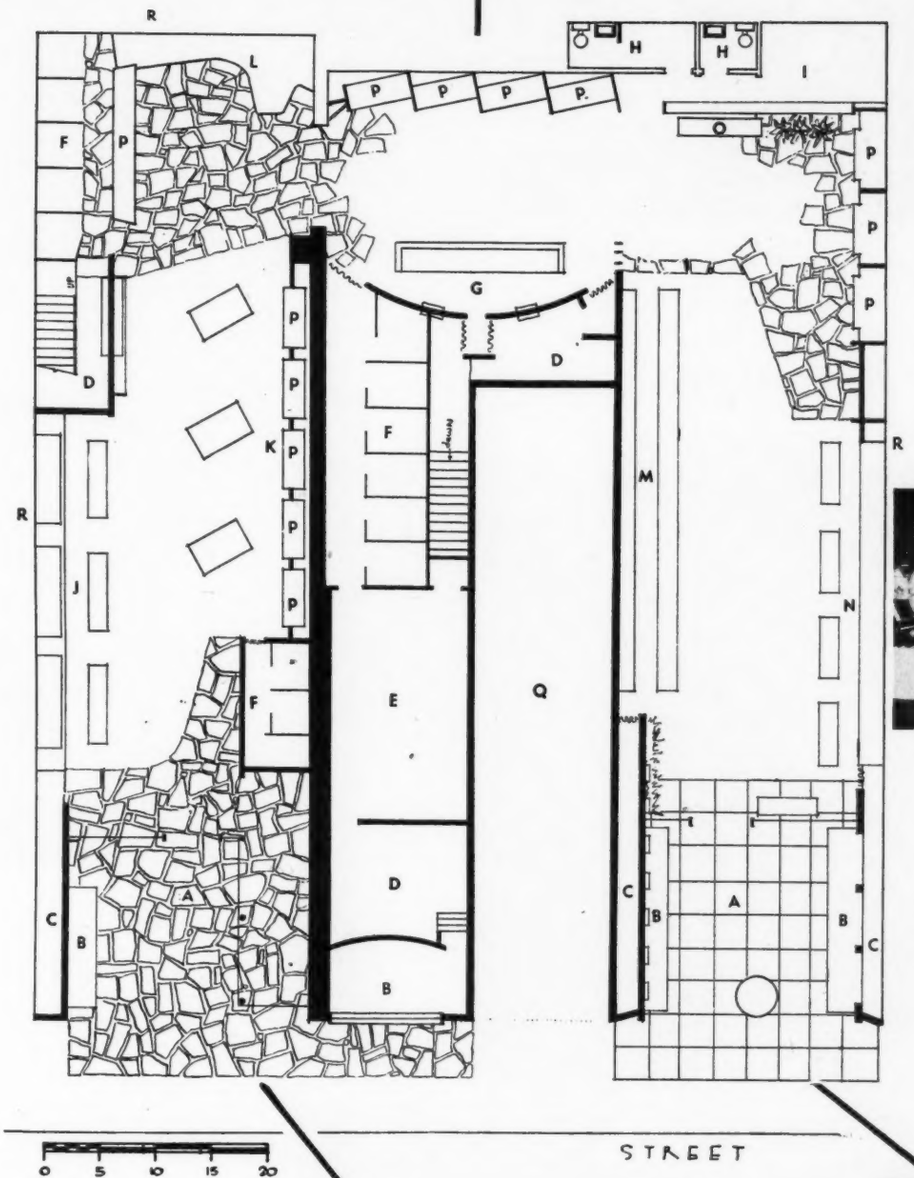
The last and most difficult phase of the expansion came when half the space between the two shops was acquired, along with a continuous area to the rear which permitted a connecting passage. This new space was utilized for facilities such as stock and alteration rooms, fitting rooms, and wrapping desk. The connecting passage itself also permitted the use of surfacing materials as a visual link between the two quite different shops.

Exterior walls of both shops are precast terrazzo block; interior walls are plaster, wood panels, and Tennessee ledgestone. Ceilings are plaster and redwood, floors are carpeted in sales areas. The architects designed all showcases and fixtures, and selected everything that went into the entire shop — even to the ashtrays.

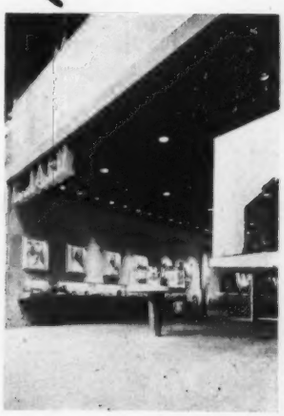


Photos: Ben Schnall



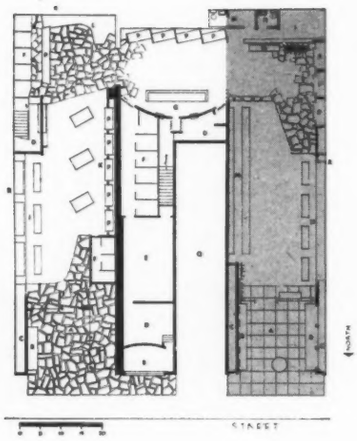








A. ARCADE
B. WINDOW DISPLAY
C. PASSAGE
D. STOCK ROOM
E. ALTERATION ROOM
F. FITTING ROOMS
G. WRAPPER DESK
H. TOILETS
I. AIR CONDITIONING
J. BLOUSES and SWEATERS
K. SPORTSWEAR
L. POOL and DISPLAY
M. JEWELRY
N. HANDBAGS
O. DISPLAY
P. DRESS CABINETS
Q. AREA NOT INCLUDED
R. ADJOINING BUILDING



The Accessory Shop, first part of the store to be completed, has plaster walls and ceiling, concrete floor. Mirrors on jewelry counter are mounted on universal joints, can be swung down behind counter. Rear wall is illuminated glass panel with mirror spots



CAROL ANTELL—ACCESSORY SHOP

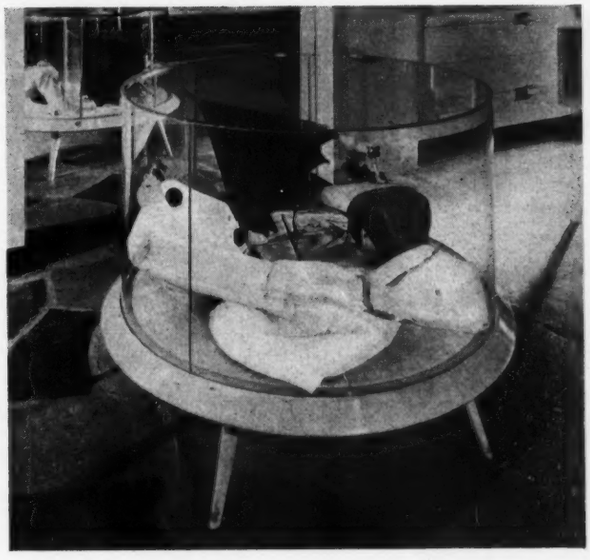


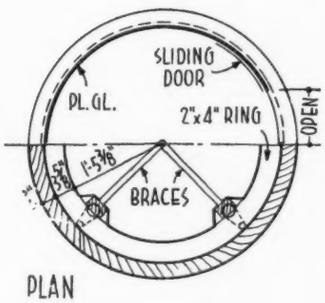
Three circular show cases (details and photo opposite) were designed by the architect especially for this shop; a fourth, mounted on a tapered pedestal, is used in the arcade (left)



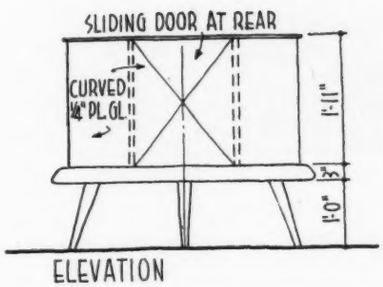


Photos: Ben Schnall

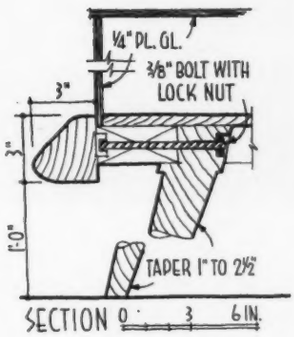




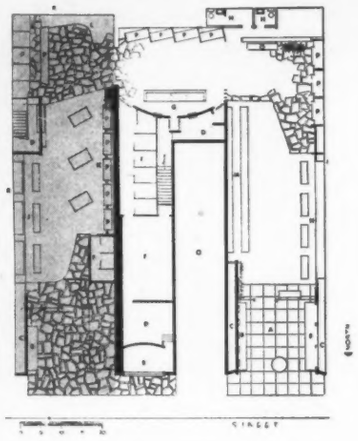
PLAN



ELEVATION



SECTION



Second part of property acquired was a two-story building which offered more freedom in design of exterior. Since this is a sportswear shop, an outdoor atmosphere was desired. Hence the flagstone floor in arcade, the tree growing out of show window. Side walls here are wood panel, rear wall is Tennessee ledgestone



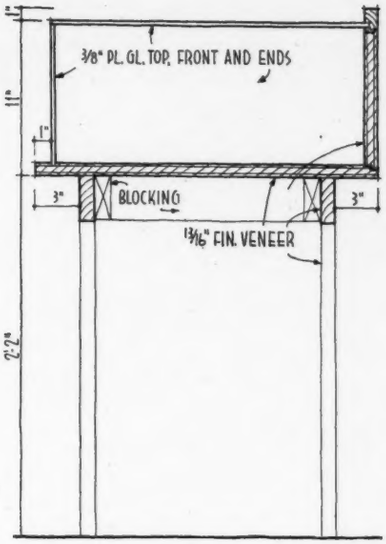
CAROL ANTELL—SPORTSWEAR SHOP

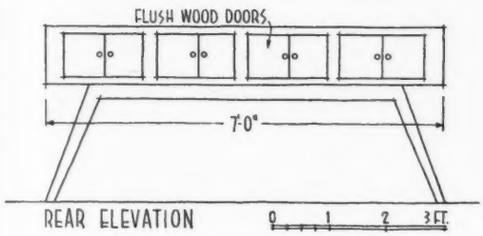


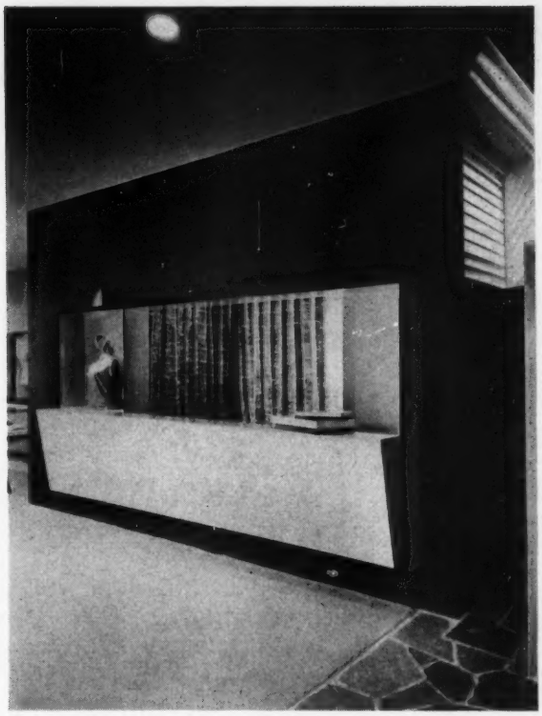
Photos: Ben Schnall



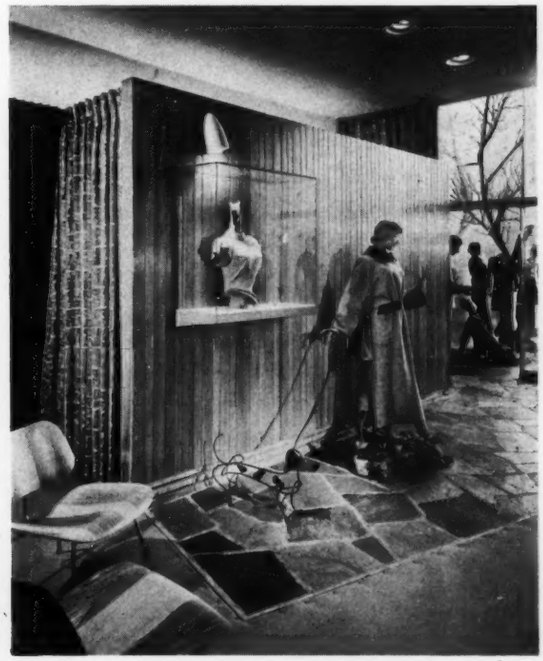
Ledgestone wall is clearly visible from street, adding to outdoor emphasis of planting box on second-floor balcony. A few fitting rooms and stairs to second-floor offices are behind stockroom desk (top, opposite page)



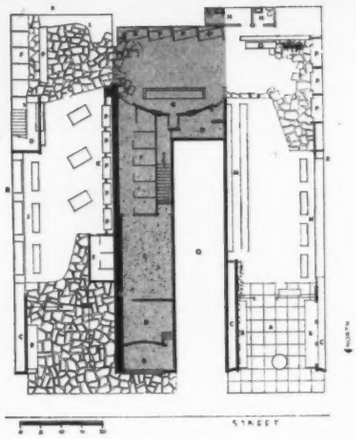








The architect designed all showcases and fixtures, cantilevering most of the wall cases. Flagstone floor of arcade is carried into interior and repeated in rear of shop which connects with Accessory Shop (next page)



CAROL ANTELL—CONNECTING PASSAGE

The two shops were tied together visually by repetition of certain materials, particularly in passage between them, where common facilities such as wrapping desk are located. Wrapping desk is covered in cowhide, which is repeated on bench at rear of Accessory Shop (page 159). Note small pool in extreme corner of Sportswear Shop (right)



Photos: Ben Schnall





INDUSTRIAL BUILDINGS

ARCHITECTURAL RECORD'S BUILDING TYPES STUDY NUMBER 183



CONSTRUCTION OF INDUSTRIAL BUILDINGS has roared on through 1951, and goes roaring ahead into 1952. In the Dodge outlook for this year industrial construction was estimated at just under the volume of last year. And last year was terrific.

How long any country can continue to expand its manufacturing capacity so rapidly, without reaching some limit, is a question nobody seems moved to answer. Right now America is still adding its war production onto its civilian manufacturing, and, except for some metals shortages, doing quite well by both. Business is good, money is flowing, and expansion continues.

It is not just tank plants and steel mills that swell the statistics. It is automobile plants, and pickle factories, and doughnut assembly lines. It is chemicals, medicinals, and perfumes. It is baby foods, and toys, and schoolbooks.

There are other reasons, besides real expansion, for building new factories. New plants are built to house more modern, more efficient, more automatic machinery. To cut costs, to get closer to markets or material sources. To improve transportation. To improve labor conditions. To escape taxation. To simplify or unify operations. To whip competition, in one way or another. There are still ancient and seemingly revered buildings that should long since have been replaced.

All of these factors have a bearing on planning and design. Choosing the location for a new factory has become a complicated study, especially now that industry rather generally is pioneering new and undeveloped areas. The government is actively encouraging decentralization or dispersion as a safety measure in case of enemy attack. Decentralization is a natural development, in any case, as industry seeks new labor sources, new material sources, new transportation efficiencies, increased amenities for workers, freedom for future growth, and so on.

Architects and engineers are then called upon to add to their program basic items which are sometimes merely assumed — water supply, fuel, power and so on. In many instances a whole new community must somehow develop, with workers' housing, schools, shops, everything a town must have. Industry generally has seemed to dodge the responsibility, because of a dread of paternalism and its evils. In the end, however, the success of the entire project may hinge on proper community planning and development, and industrial management is not as blind in this as sometimes appears.

Which is to say that industrial expansion is a very dynamic movement, continually shifting and sharpening its requirements for buildings. It is sometimes said that industrial buildings have settled into a pattern, that they all look alike, that their designs might as well roll off some assembly line for blueprints. But it takes very little reflection to see that design can never become static. Design of buildings for industry, like industry itself, feeds upon change. Like an airplane, it must have forward movement, or fall.

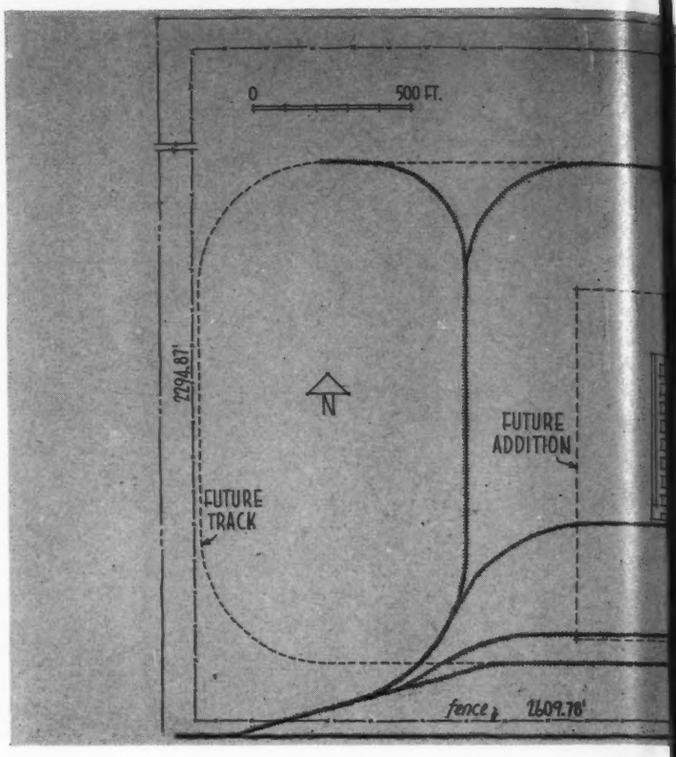
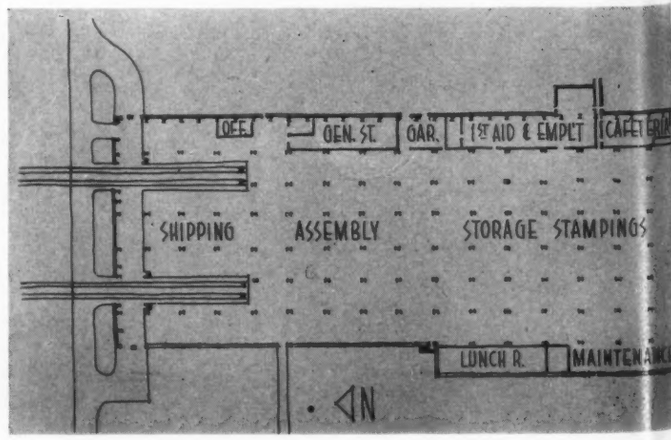


Photo: Lens Art

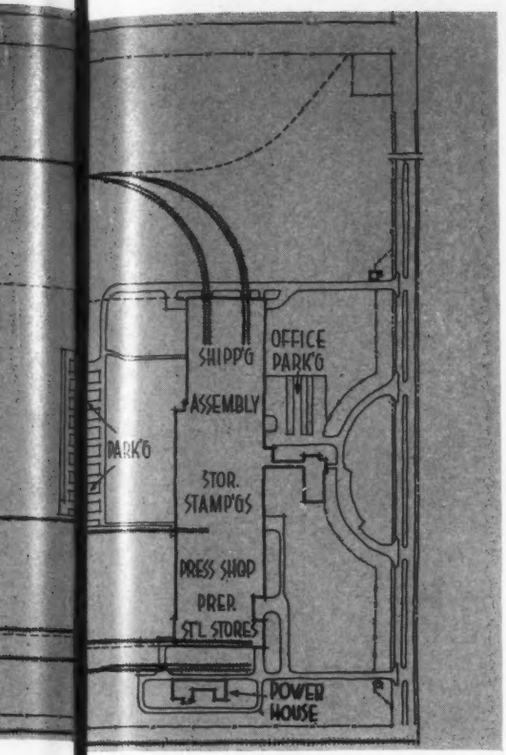


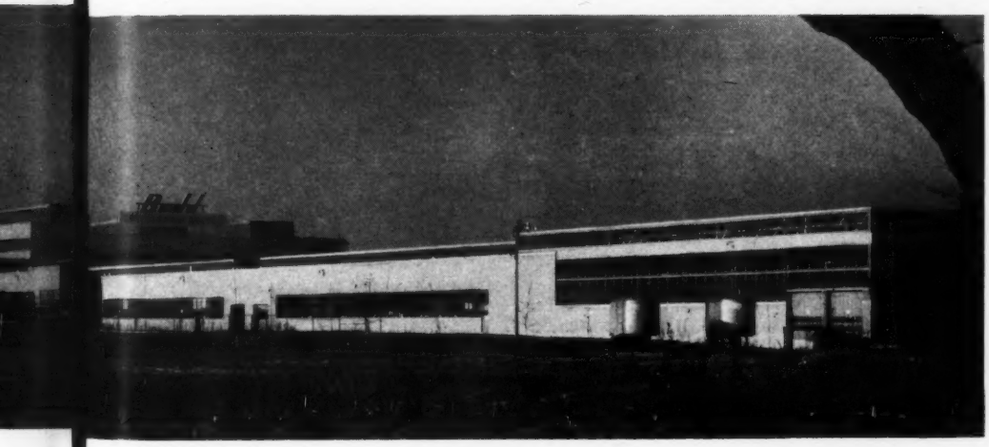


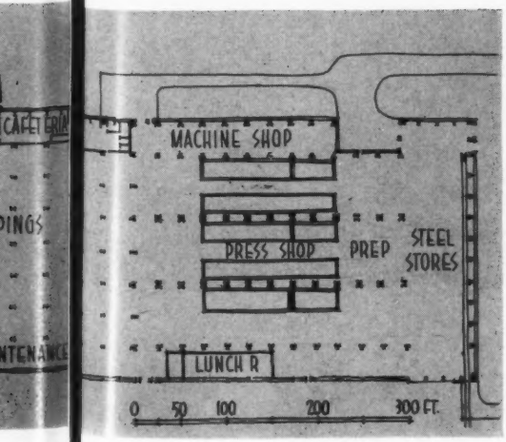
FLEXIBLE PLANT FOR AUTOMOBILE BODIES

The Budd Company, Chase Plant, Gary, Ind.

Giffels & Vallet, Inc., L. Rossetti, Architect and Engineers







THE AUTOMOBILE INDUSTRY is probably the best client industrial architects and engineers ever had. It has been a huge industry, a growing one, but perhaps more important still, an industry of constant change. In Detroit you hear of a radically improved engine which is coming in a couple of years "as soon as new plants can be built to make it." Each new development seems to require drastic changes, including new buildings, to make the new gimmick with the necessary efficiency.

This Budd plant concentrates on two parts of an automobile body, doors and roof, was needed in a hurry when efficiency required such specialization.

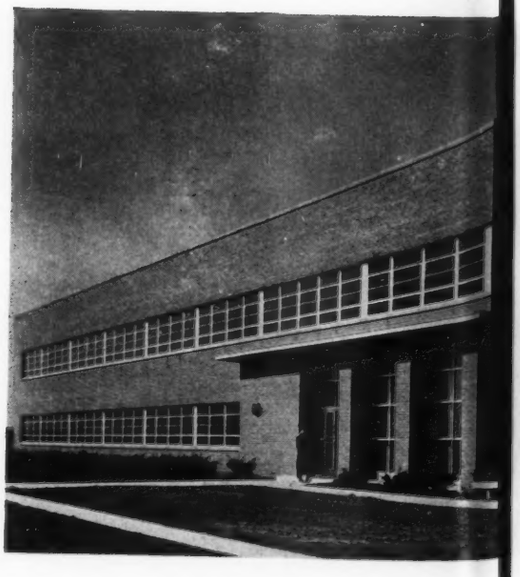
One addition has already been built, increasing the assembly and shipping area by 65,000 sq ft. As the site plan shows, the plan was designed for great expansion. The first plant could be tripled in size, then a fresh start made in a second loop of railroad tracks. The power plant was placed so as not to block this growth. The original press shop, where body stampings are made, was made large enough to permit the present expansion to assembly and shipping areas.

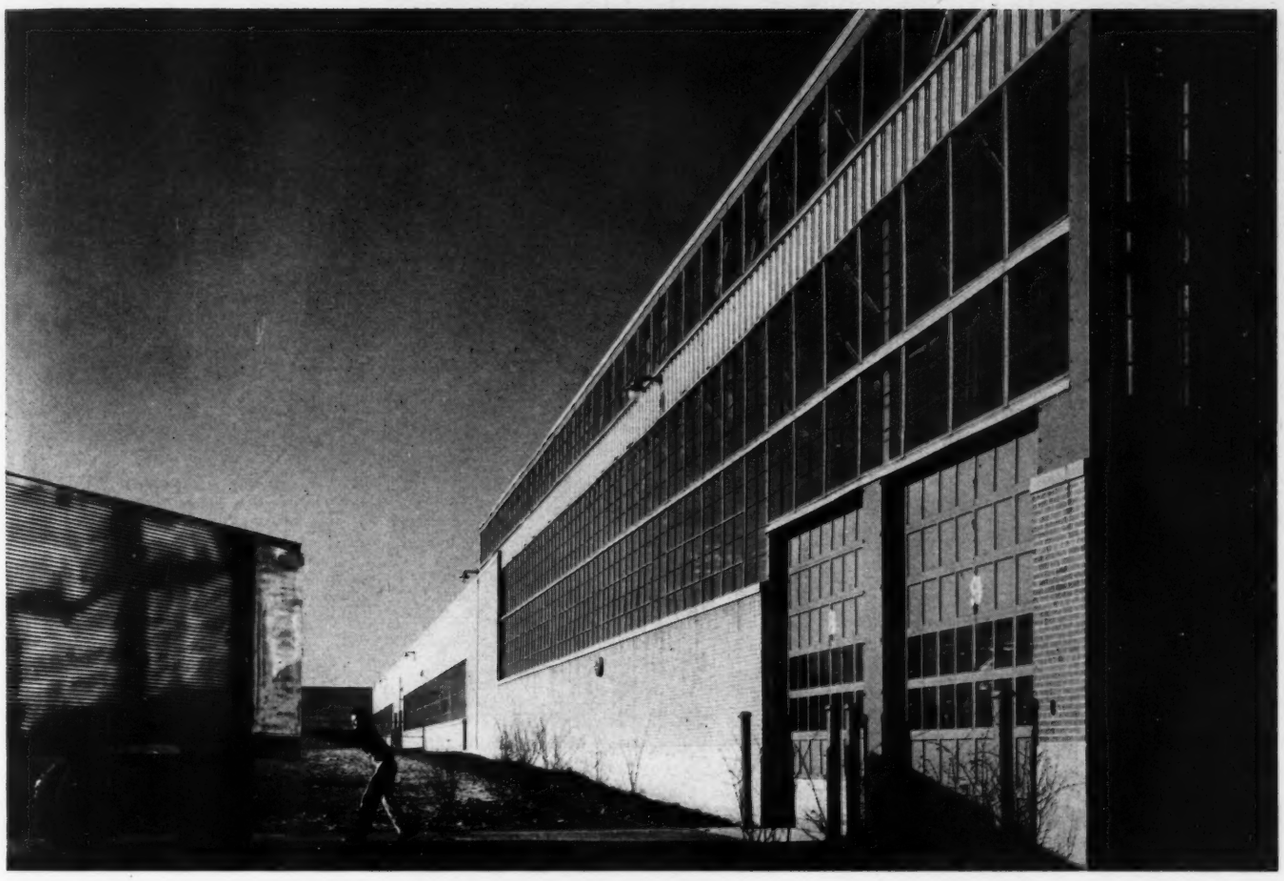
The press room has one interesting contribution to flexibility. Normally the huge stamping machines are set in individual pits and thus are difficult to move to accommodate changes in the work line. Here the engineers worked out a long trench (there are five of them) to take the machines in any desired location (plan and sections, page 168). Prebuilt, trussed slab floor sections can be placed across the pits between machine mountings. This system makes it possible to move the huge presses back and forth at will, or even change their place in the rotation, without the delay and expense of building new pits. Actually there are three different cross sections in the five trenches; changes from one line to another would be rare, but to an extent even these could be accommodated.

It is interesting to note that the bottom seven or eight feet in the deepest pits are below the water line in the marshy base of the sand dunes on which this building stands. Metallic waterproofing has avoided any trouble in this respect. The engineers have also been able to cope with some settling, by opening the floors at spots and pumping in sand.





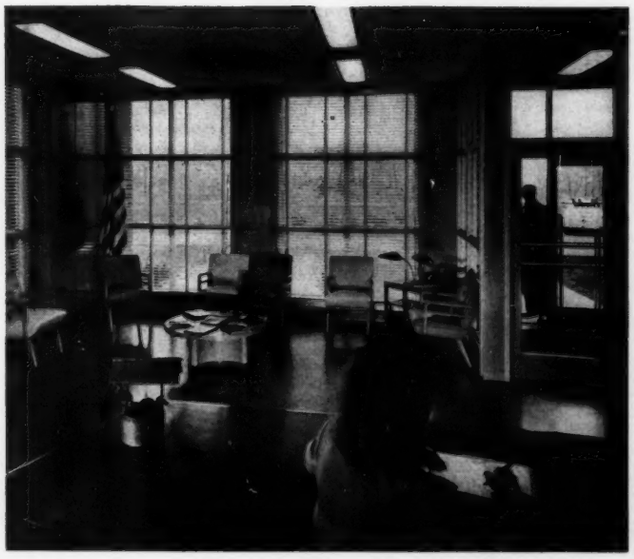




Photos: Lens Art

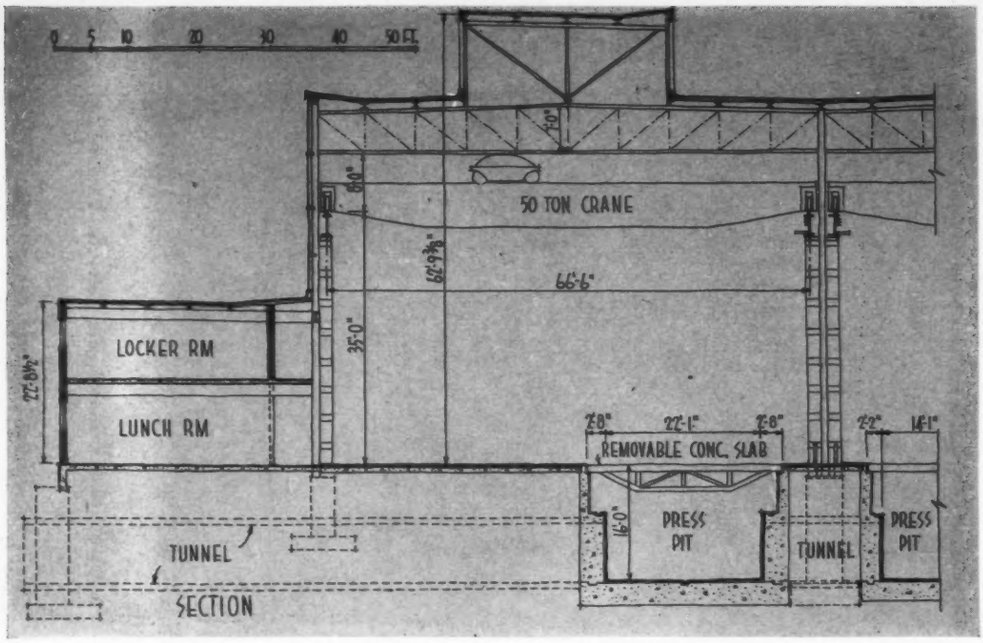
The above photograph is already out of date, as this shipping and assembly area has been enlarged by 65,000 sq ft

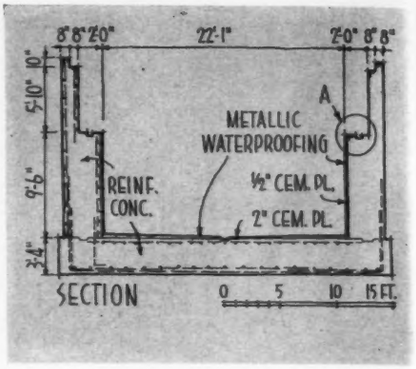


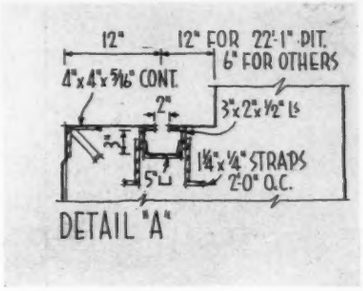




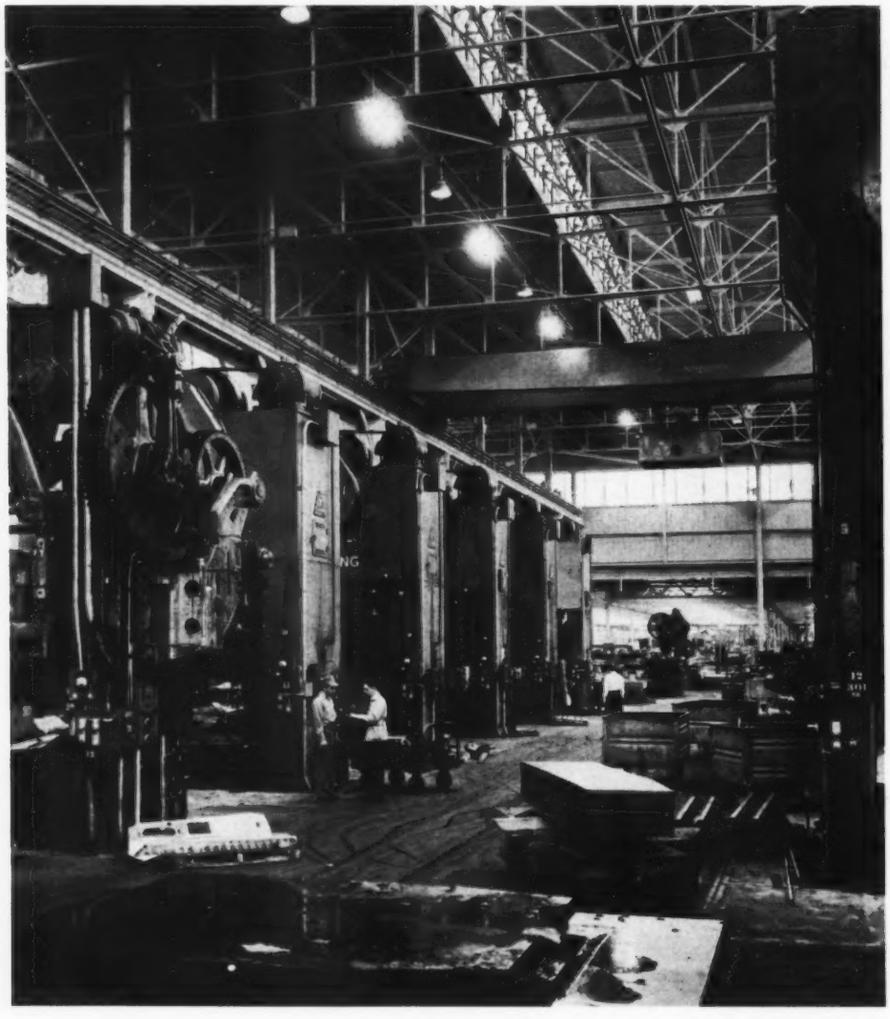
Offices are in separate buildings relatively far away from the plant, for isolation from noise of heavy metal presses







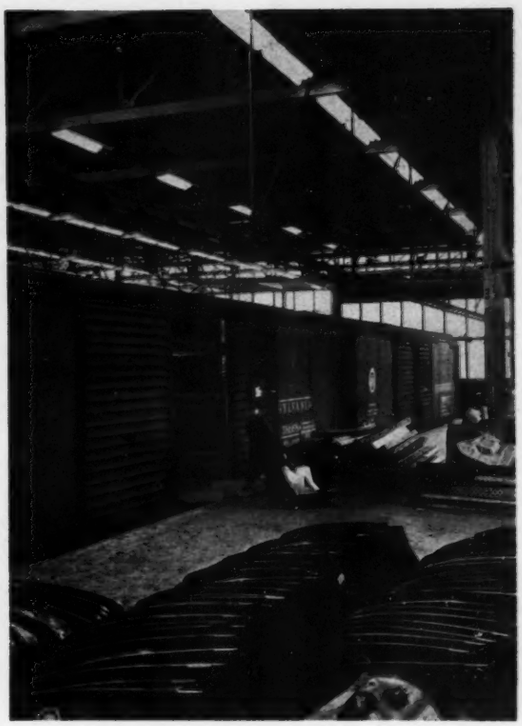
Press pit is a long trench in which the huge presses can be moved up or down the line as production changes require, are deep enough for maintenance servicing of presses. Removable trussed slab floor sections cover pits between press locations (see also small photo below)



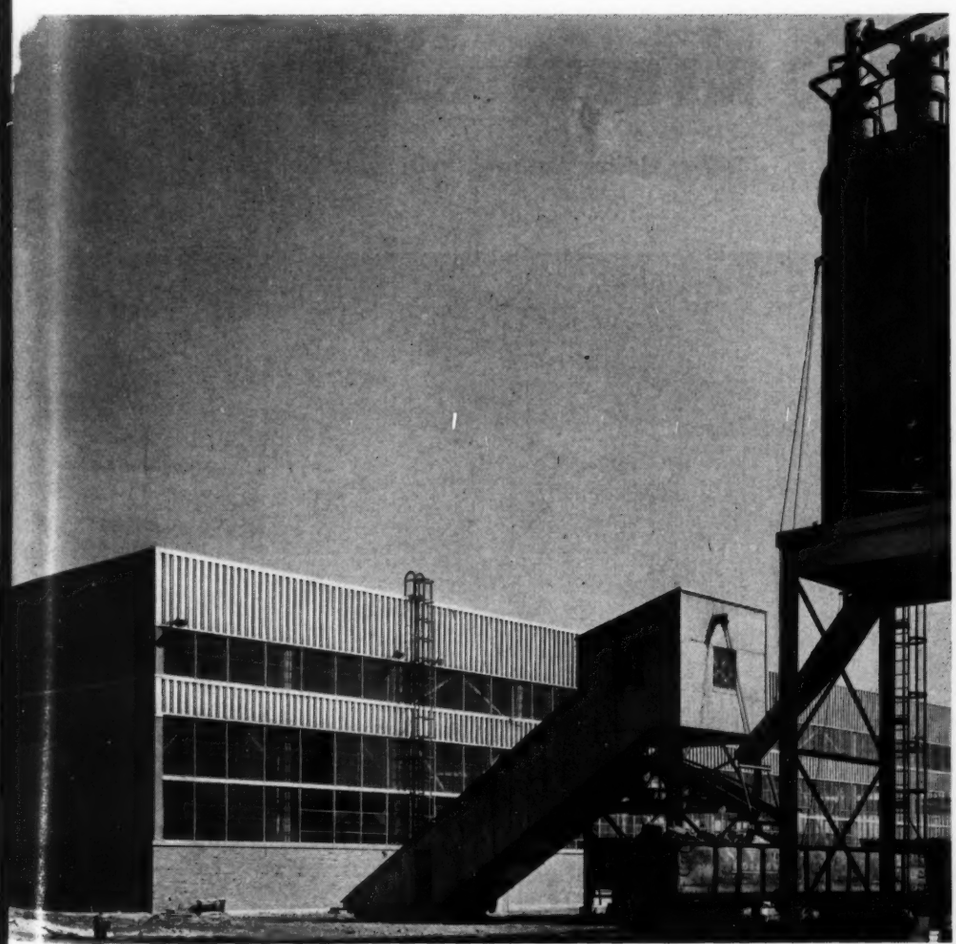


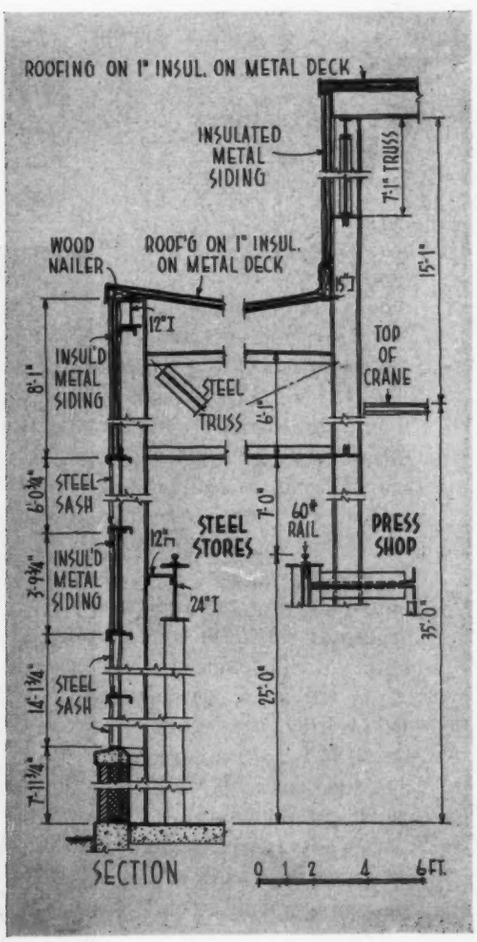
Photograph at left shows largest metal presses in line over pits. Photo above shows underneath view of press being serviced from the trench. Note floor section in place spanning pit trench between machines





Photos: Lens Art









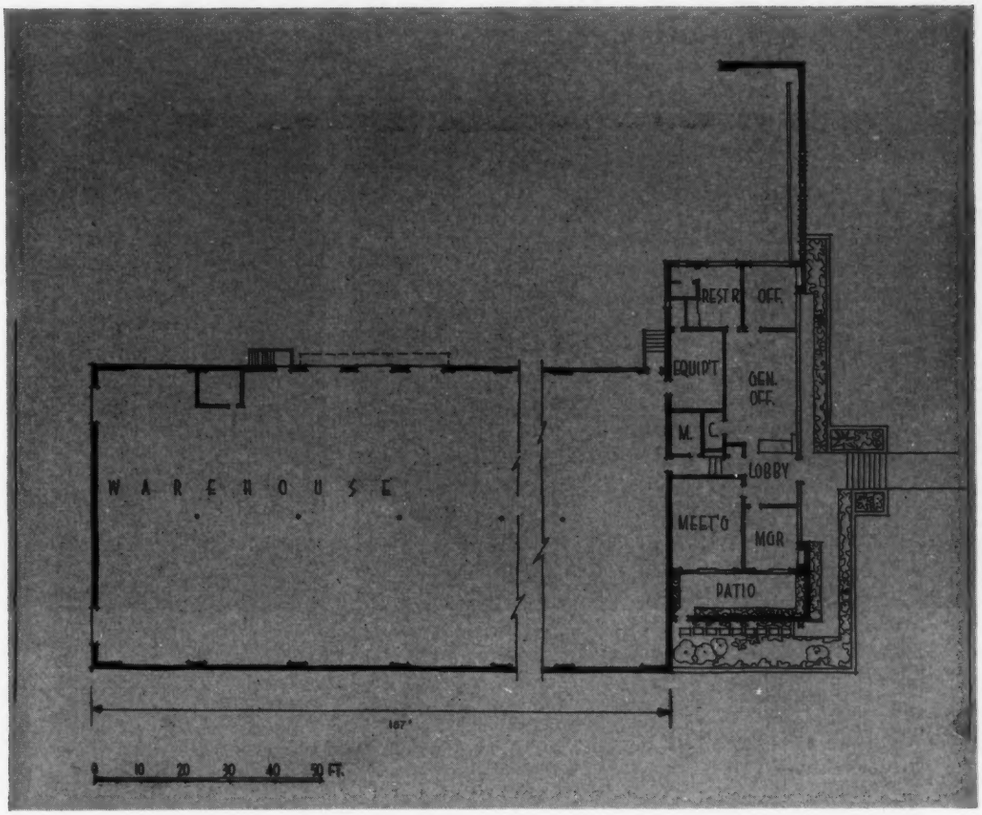
WAREHOUSE BUILDING

District Offices for S. C. Johnson & Son, Inc., Los Angeles



Photos: Julius Shulman





FOR FUTURE MANUFACTURING

Albert C. Martin and Associates, Architects and Engineers

This building was awarded an honorable mention in the recent Honor Awards Program of the Southern California and Pasadena chapters of the A.I.A. "Plan was simple and direct," said the jury report, "with fine relation between office and warehouse. The interior of the warehouse has real beauty . . ."

DISTRIBUTION of nationally advertised products on the West Coast frequently calls for a building such as this, a district office building and warehouse planned for later manufacturing operations. In such an enterprise the site is chosen with consideration for both administrative and truck traffic, in this instance in a fast-growing industrial area southeast of Los Angeles proper. Site and building are planned to allow for expansion of both office portion and manufacturing space. And architectural values are developed for both prestige and advertising purposes.

Structure is reinforced brick masonry, using common brick for the warehouse and face brick for the office portion. Windows are steel sash, mechanically operated in the warehouse. Floors are quarry tile in the patio, slate on the terrace; office floors are covered with rubber tile, asphalt tile, linoleum, cork tile and hardwood parquet floors. In the warehouse floor is concrete, treated to increase its hardness and to control cracking. Walls in the warehouse are exposed brick; office walls are finished with several species of hardwood paneling, natural wax finish. Acoustic tile ceilings; fluorescent lighting.





Walled-in patio at one end of office building provides a pleasant outlook for the district manager's office, and for the sales meeting room (upper left). Sliding doors open these rooms to the patio

Photos: Julius Shulman



FACTORY AND SHOWROOM FOR PERFUMES

Fabergé Perfumes (Canada) Ltd., Etobicoke, Ont.

John B. Parkin Associates, Architects

IN ANOTHER era a showroom would not be combined with a factory unless the location were in a downtown section, on routes well traveled by buyers. This one, however, is designed to attract retail representatives to an outlying location, on Queen Elizabeth Way, Etobicoke, Ontario. It provides full manufacturing facilities for perfume, cologne, and other cosmetics, complete employee facilities, and office and showrooms. A cosmetic showroom does not amount to much, measured in square feet, but it does call for a certain sales approach in design — reflecting pool at entrance, gardens (yet to appear), serpentine wall separating main and employees' entrance, spacious lobby, general attention to display. Interiors are quite colorful.



Photos: Panda

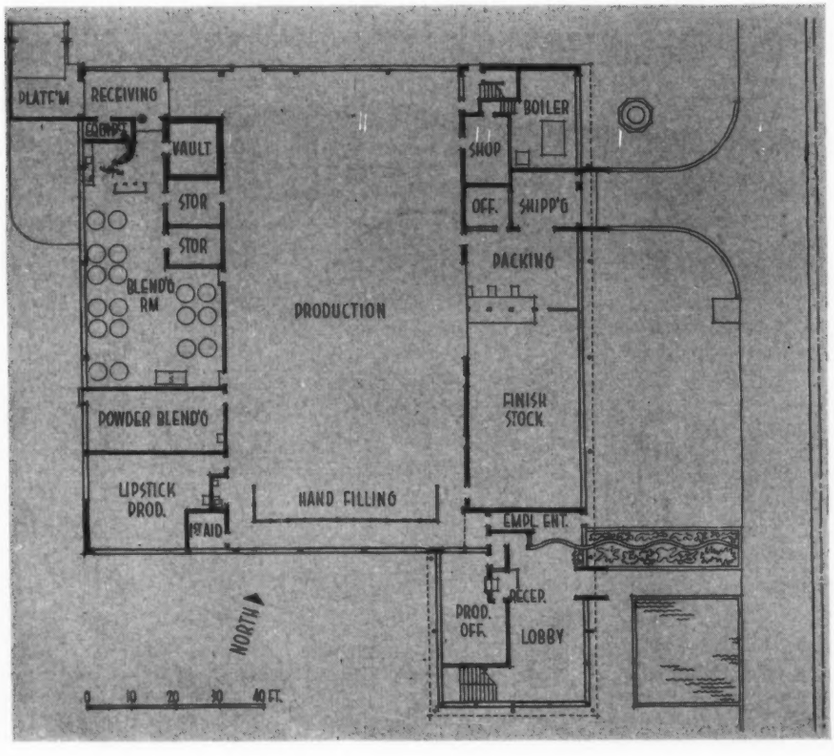


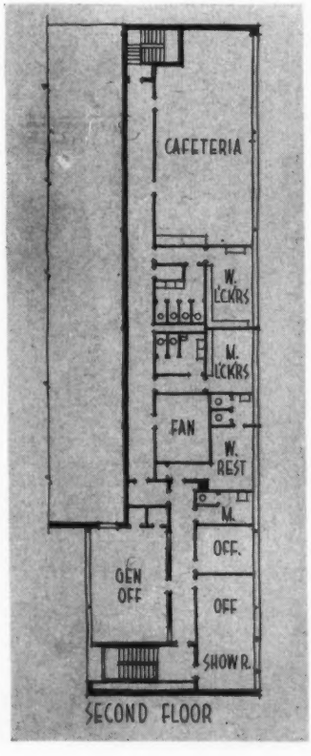


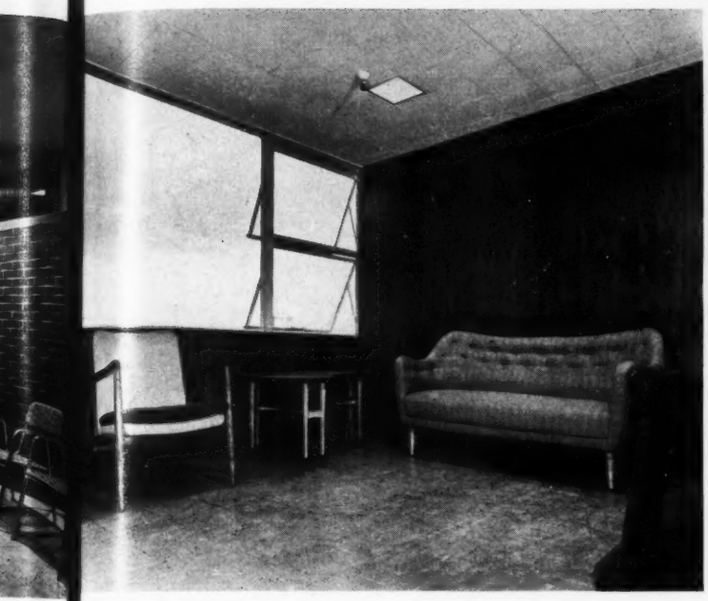


Photos: Pando

Main lobby, above and left, is unusually spacious, since this is showroom for Fabergé as well as factory. Serpentine wall is continuation of one outside, separating entrances

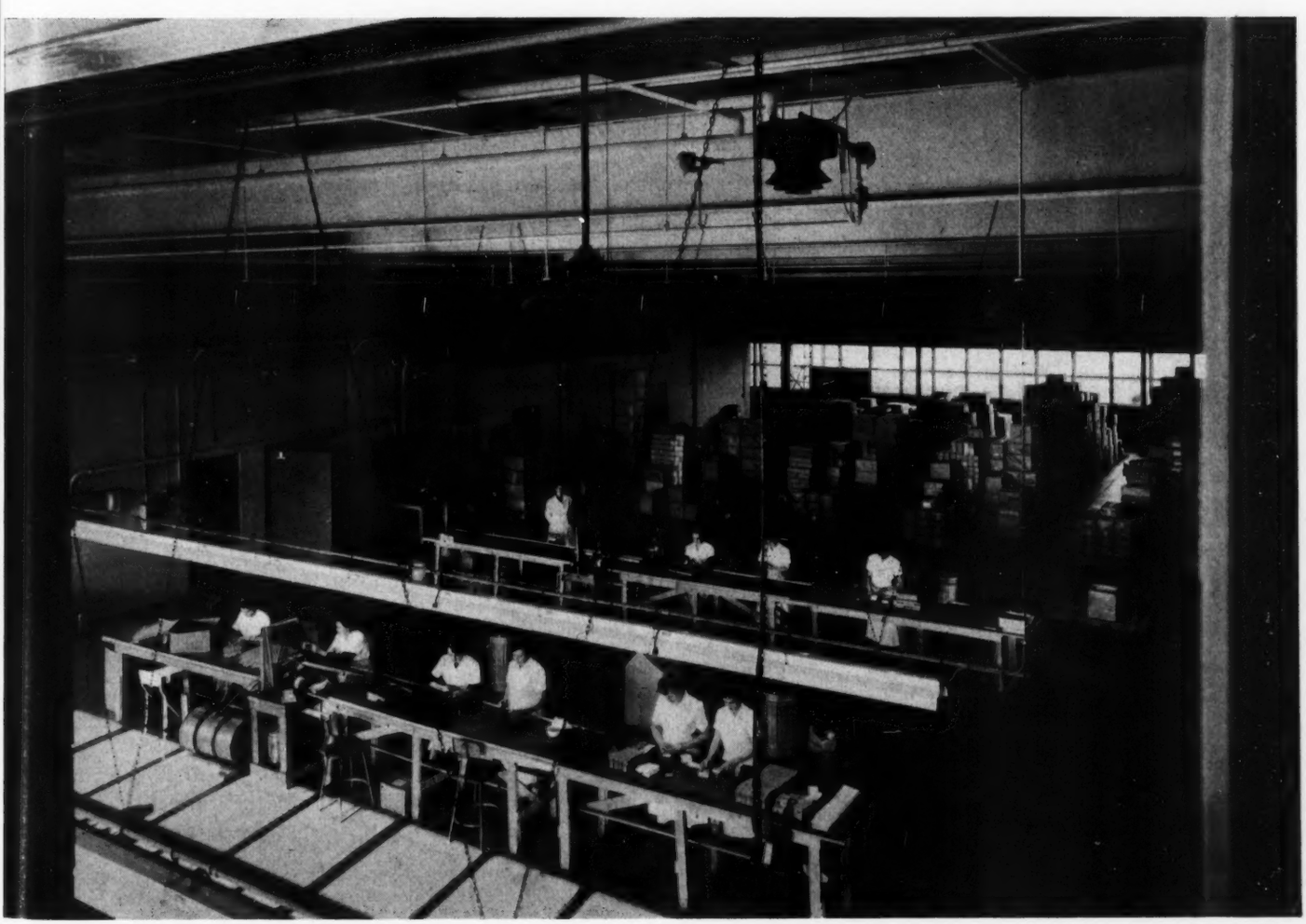




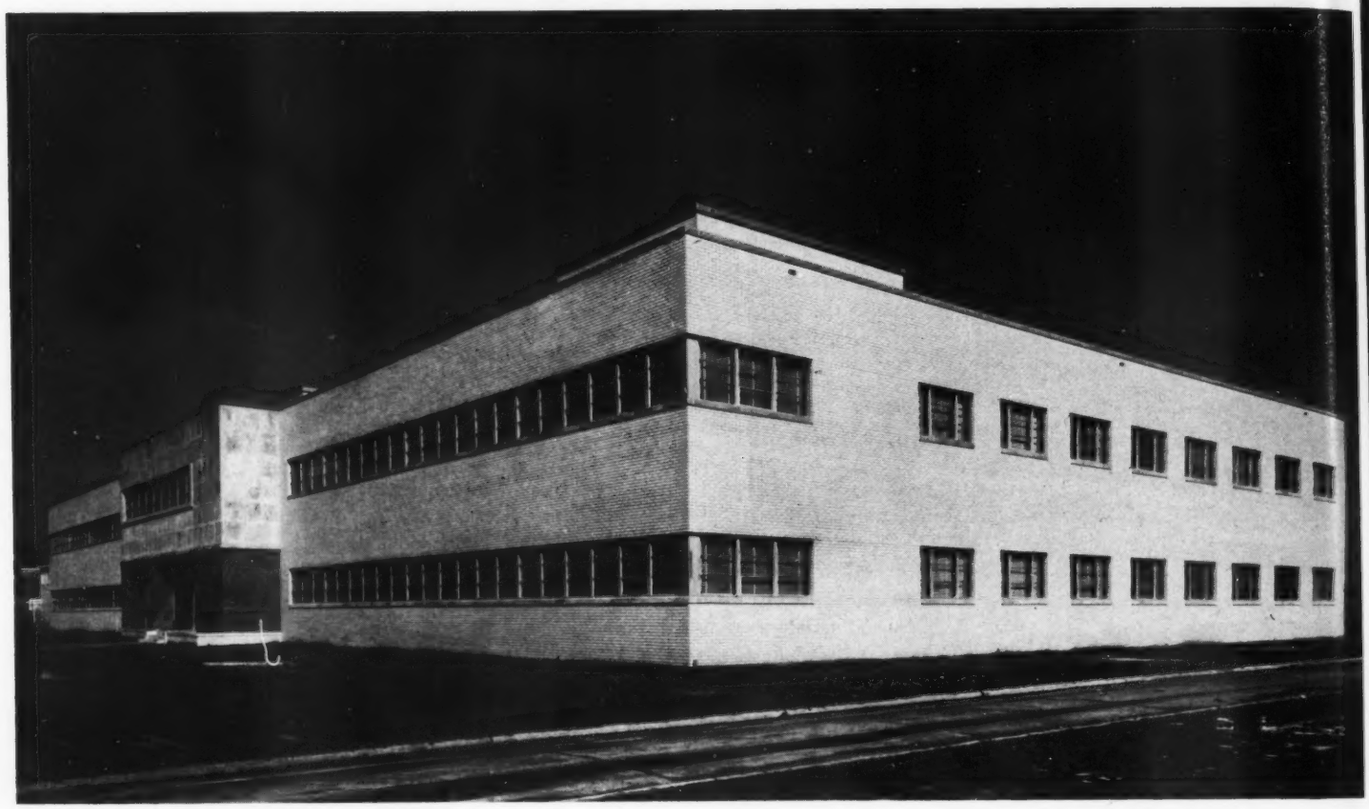




Sales offices, even for cosmetics, manage to avoid the chi-chi effects in furniture and decoration usually associated with displays of feminine items. Main production area, below, has 60-ft clear span, bright colored walls, general and local lighting



LABORATORY FOR MUD ENGINEERING



Offices and Laboratories for Baroid Sales Division,

National Lead Company, Houston, Texas

Wyatt Hedrick, Architect

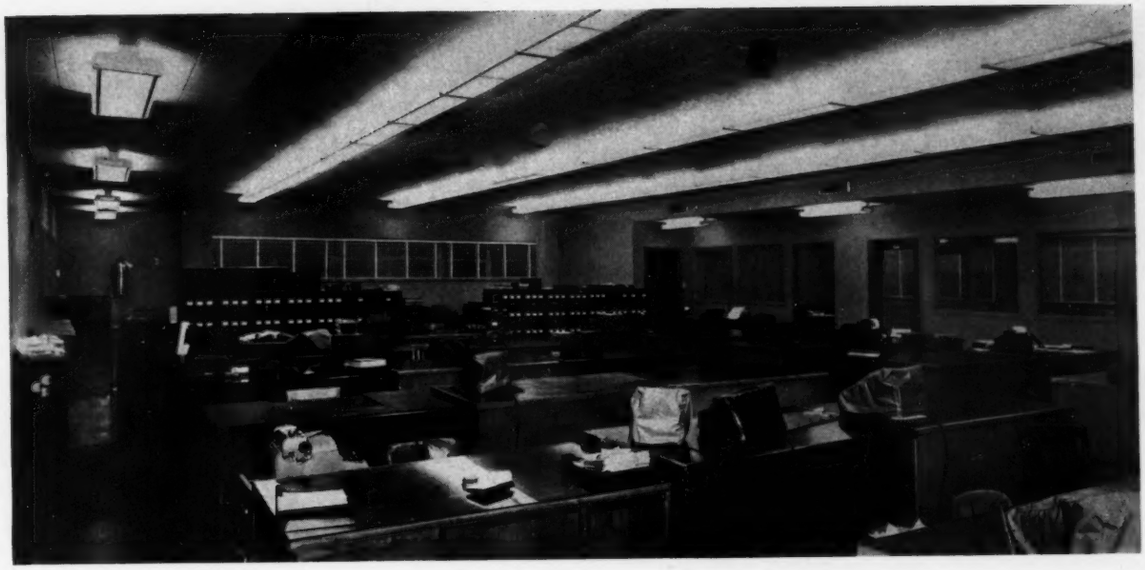
The H. K. Ferguson Company, Builder



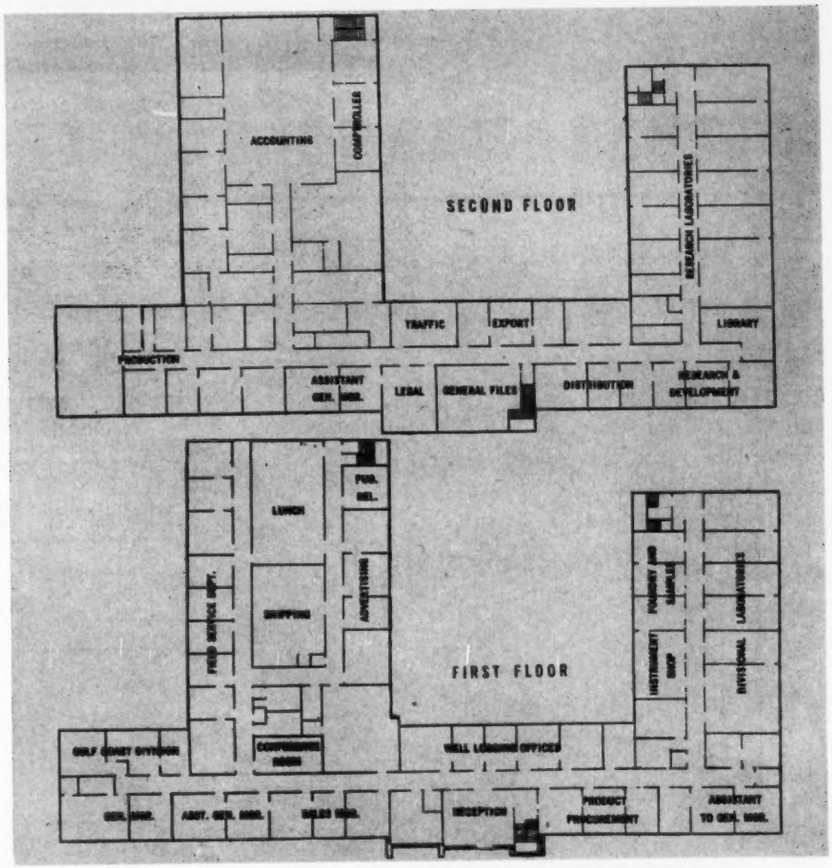
MUD RESEARCH means the development of various drilling mud concoctions to lubricate, cool and clean the operation of drilling an oil well, and is, of course, important in the world's search for new petroleum fields. This new building combines mud laboratories and offices, and consolidates two company divisions, one being moved in from the Pacific Coast.

The building is of reinforced concrete construction with buff face brick walls. It contains a total area of approximately 40,000 sq ft. For the office space at the front, unbroken fenestration extends the length of the building. Windows along the laboratory wing (photograph above) are separated by piers which are necessary to good space use in laboratory space.

The building is completely air conditioned, and is equipped with its own heating plant. Lighting is provided by fluorescent lamps hung just below ceilings of acoustical tile.



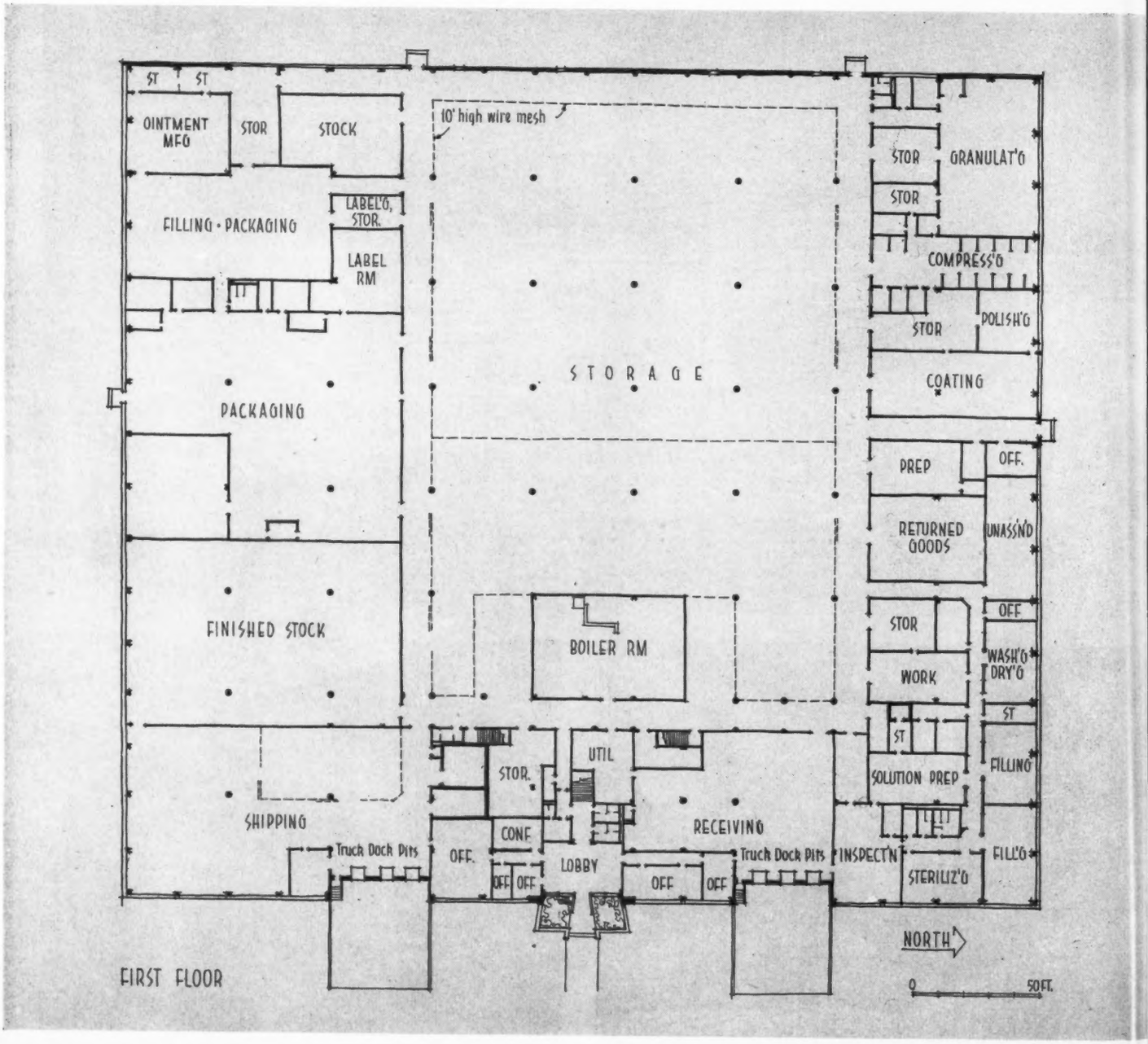
Photos: Litterst Comm.

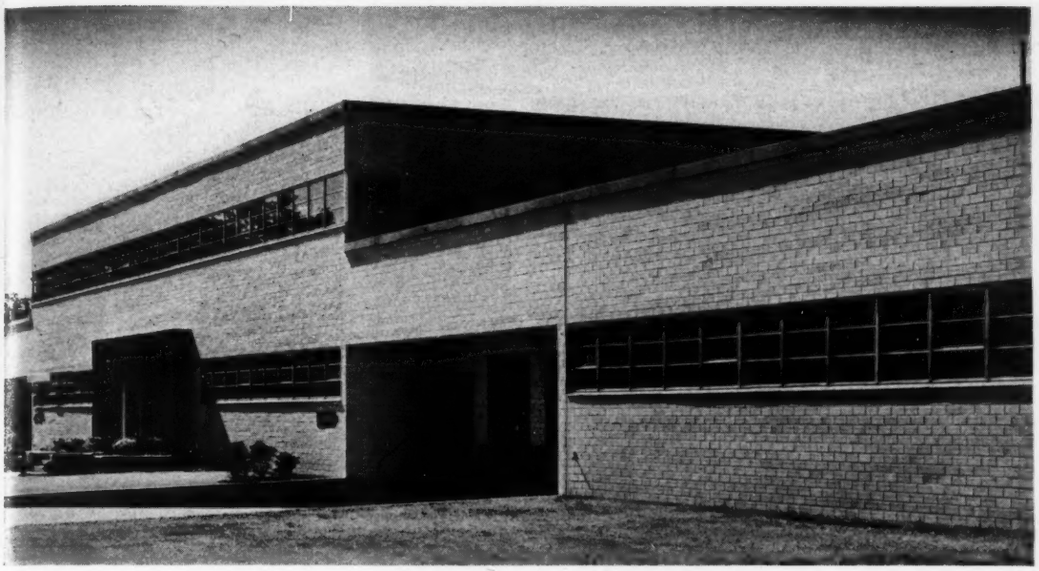









ST
ST
OINTMENT MFG
STOR
STOCK
10' high wire mesh
FILLING · PACKAGING
LABEL'G, STOR.
LABEL RM
PACKAGING
STORAGE
FINISHED STOCK
BOILER RM
SHIPPING
STOR.
UTIL
CONF.
OFF.
LOBBY
RECEIVING
Truck Dock Pits
Truck Dock Pits
OFF
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PREP
OFF.
RETURNED GOODS
UNASS'ND
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OFF
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ST
ST
SOLUTION PREP
FILLING
INSPECT'N
STERILIZ'G
FILL'G
NORTH
0
50 FT.
FIRST FLOOR



Photos: Gottscho-Schleisner

PLANT FOR PHARMACEUTICAL PRODUCTS

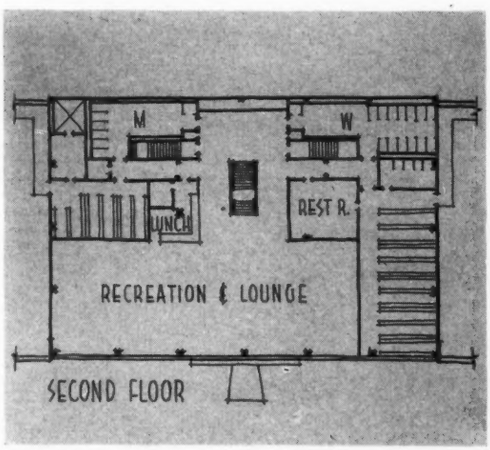
Ciba Pharmaceutical Products, Inc., Summit, N. J.

Petroff & Clarkson, Architects

Guy B. Panero, Engineers

John W. Ryan Construction Company, Builders

SIX ESSENTIAL REQUIREMENTS were specifically laid down for this pharmaceutical plant: 1. closely controlled temperature and humidity conditions, plus highest standards of cleanliness; 2. layout for four separate manufacturing operations; 3. design for good employee and community relations; 4. materials and finishes for hard wear and easy maintenance; 5. provision for expansion of any one area; 6. blending of the new building with the existing group. Contributing to these ends, the plan puts manufacturing operations along outside perimeter, warehousing and mechanical equipment in the center. This scheme gives workers best locations; also permits separate zone controls for air conditioning and humidity control.



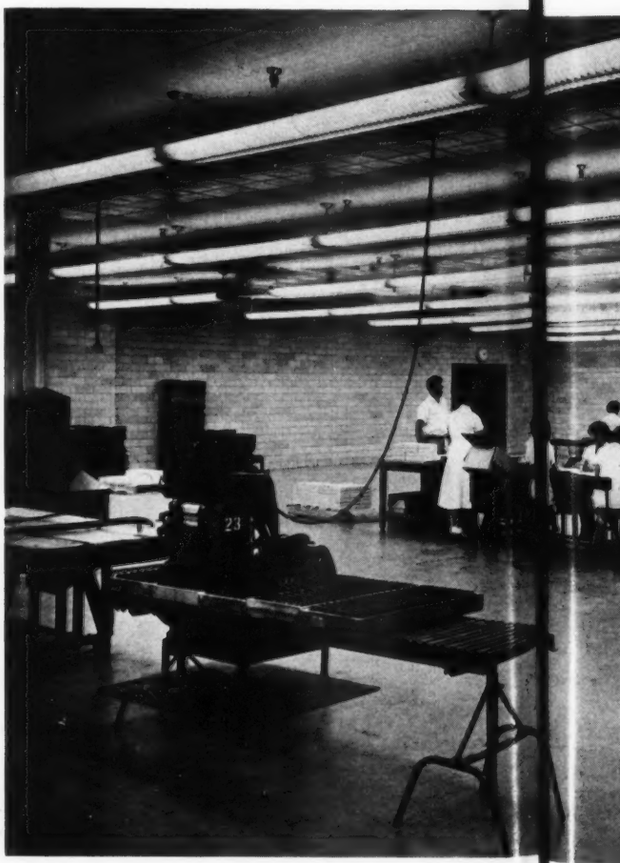




Photos: Gottscho-Schleisner

In addition to the cafeteria, the second floor has recreation room with ping pong tables and so on. Second floor can be added to as required. Below, left: solution preparation room, where begins the manufacture of various ampule products. Below, right: packaging operations



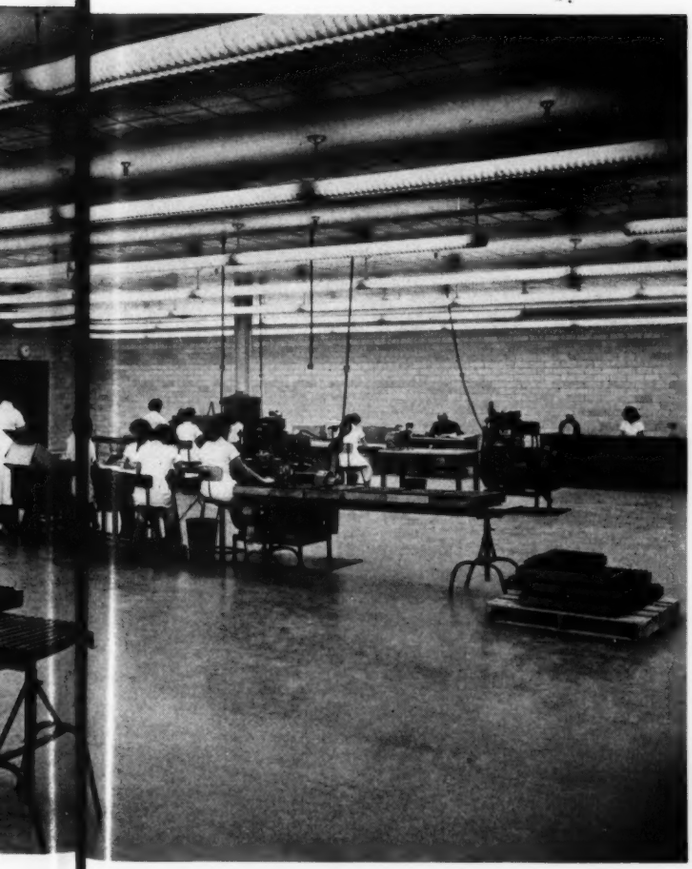


Below, left: ampule filling and sealing is done by operators in these cubicles along outside perimeter, for most pleasant working conditions. Below, right: kettles for sugar coating pills; one hose supplies warm air, the other is an exhaust. Relative humidity is 40 per cent





Below, right: large central warehouse area has ceiling height of 19 ft, and is the only part of building in which structural steel is exposed. Columns, however, are protected at base with concrete





TWO VARIATIONS OF PROTOTYPE DESIGN

Two Food Products Plants at

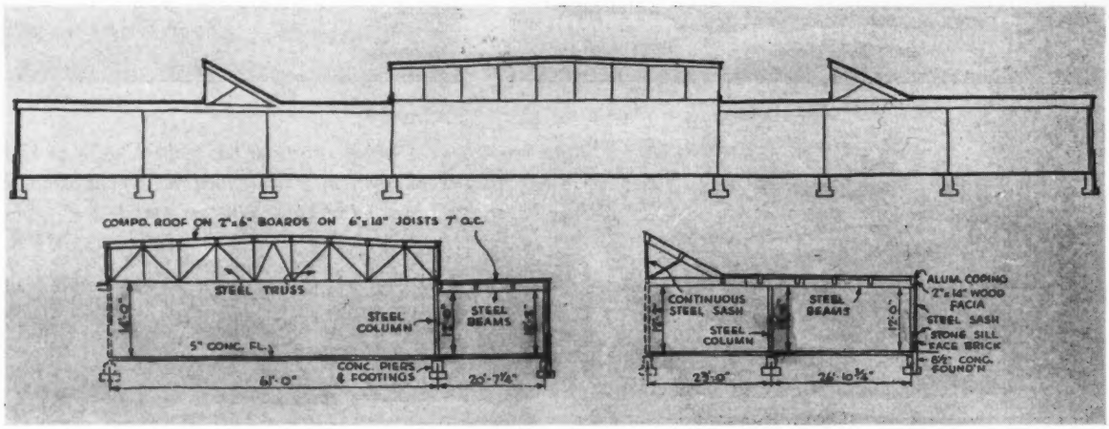
Clearing Industrial District, Chicago

John S. Cromelin, Architect



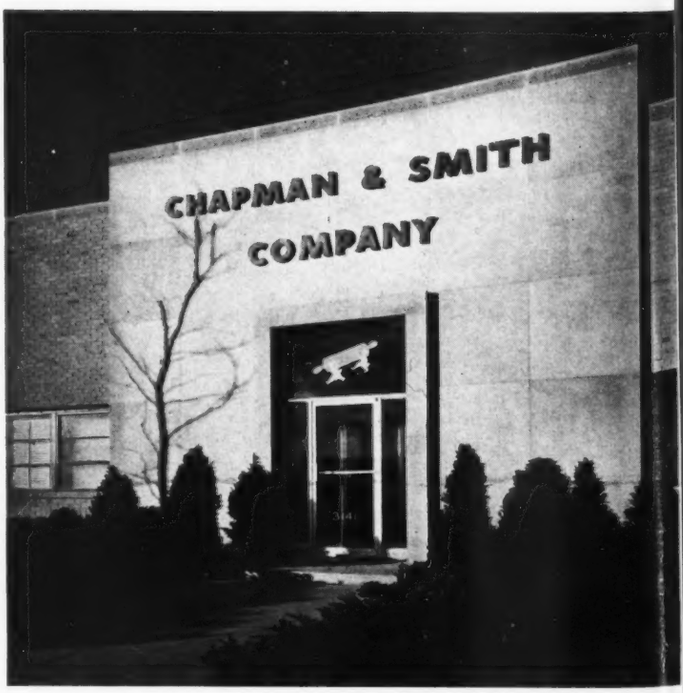
Photos: Hedrich-Blessing

AT THIS OLD and well-established industrial subdivision, small factory buildings tend to follow a prototype design worked out many years ago (see sections below, from ARCHITECTURAL RECORD, December 1946). Here are two similar buildings, both for food products, which follow the pattern in some respects, differ in



others. The basic scheme uses various combinations of more or less standard bays, wider center bays with trussed monitor roof, A-frame roof sections to light interior bays, mostly with wood joists on steel beams, and mill type of roof construction. The Melville building, in which speed was of paramount importance, was designed as far as possible to use a supply of fabricated steel which the Clearing Company already had. Minor adjustments were made in column spacing, and in a wide bay where bar joists were used.

In the Chapman & Smith building, a standard bay of 26 by 30 ft was used, to meet special pallet storage requirements. Alternate bays were raised to provide monitor lighting, with the usual steel beam and wood joist construction. Here a variation was made: wood joists were placed above beams, instead of set flush on steel angles. In these bays this scheme saved on sprinkler heads and connections.





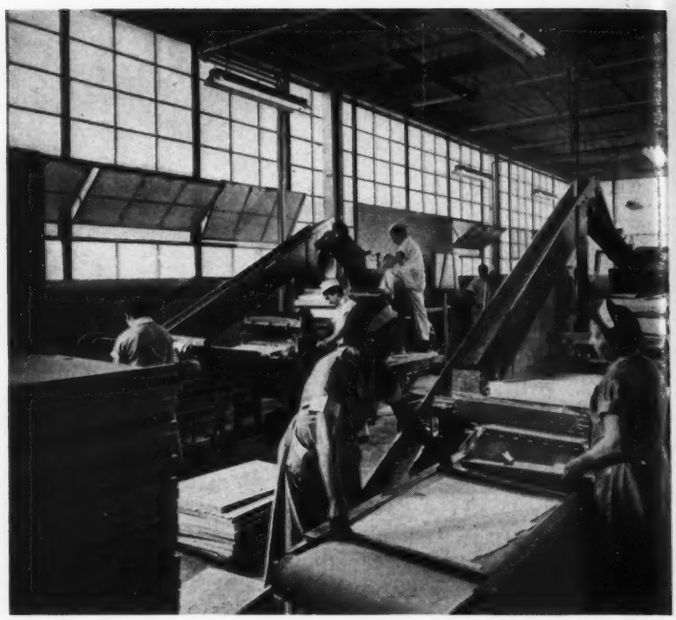
In Melville building speed of construction was necessary, as previous quarters had to be vacated to widen street

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Chapman & Smith makes a display of its new building for visiting women's groups, as company makes bakers' mixes for doughnuts, pie crust, cakes, also jellies and fruit syrups







Photos above: Hedrich-Blessing

Melville plant, making many different kinds of confections, has very complicated production flow, and resulting lines have a Rube Goldberg look; but they are result of much study and many rejections, and they work

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Chapman & Smith laboratories are air conditioned, as are also offices and kitchens. Below, right· completely enclosed truck dock is necessary for loading and unloading perishable materials, is lighted by monitor







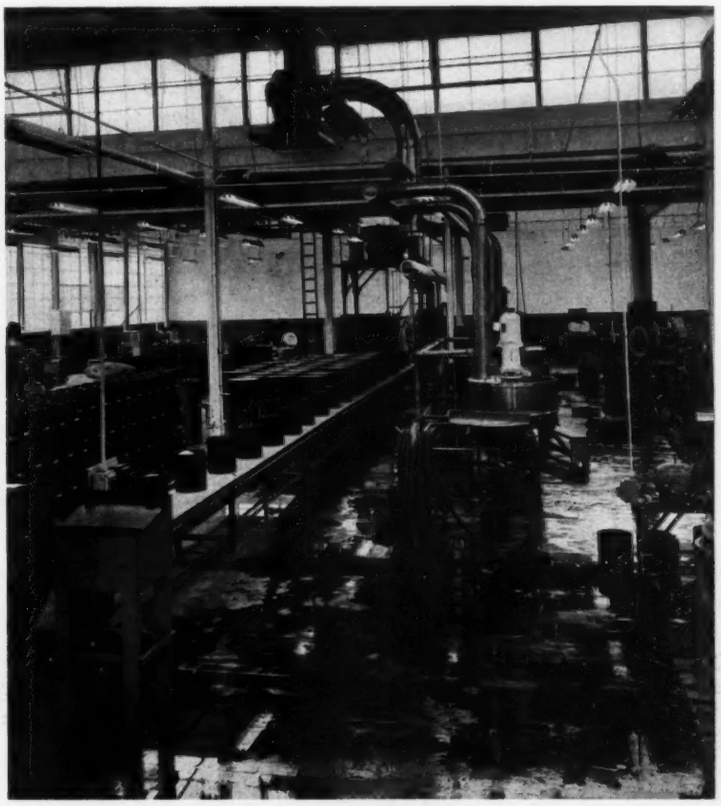


Photos above: Hedrich-Blessing

Most of plant is quite open; some areas, however, develop explosive hazards of starch dust, have elaborate precautions

"Wet room" has quarry tile floor and wainscot, to protect it against the corrosive action of fruit juices used in jellies





CONSOLIDATED OFFICES







AND WAREHOUSE BUILDING

American Cyanamid Company Building, Los Angeles

John M. Stahl, Owner



McClellan, MacDonald & Markwith, Architects

M. J. Denn, Designer Associated with Owner

Buttress and McClellan, Contractors

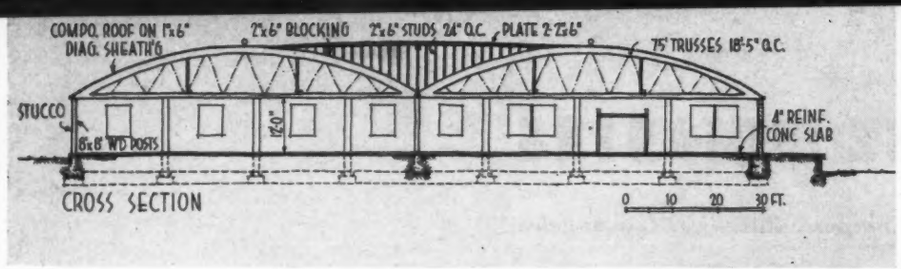
CONSOLIDATION was the *raison d'être* for this little building, consolidation of several office and warehouse locations in the Los Angeles area. Cyanamid does not own it; it was built for them by the owner under a long-term lease.

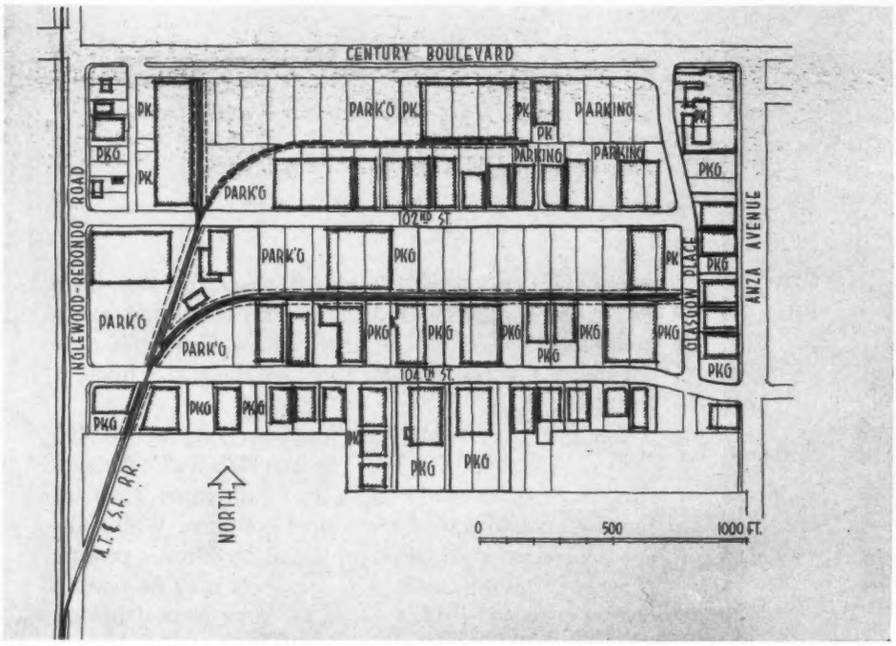
The building has 44,700 sq ft of warehouse and 18,400 sq ft of office space. It is of pre-cast slab wall construction, the slabs poured one on top of the other, then set in position and joined by poured columns. Wall slabs are poured on floor slabs protected by Hunt's process from adhering. A stack of wall panels may be poured one on top of the other, with windows framed in and reinforcing bars projecting out the sides. Concrete is vibrated after being poured and one surface troweled smooth for an interior finish. Panels are then lifted into position, steel projections welded together, column steel forming set and the column poured.











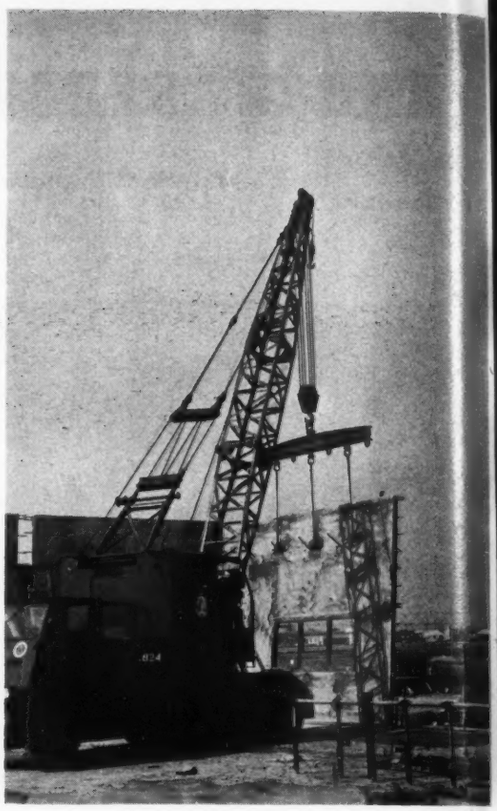


Photo: William Eccles

TILT-UP BUILDING FOR INDUSTRIAL

International Airport Industrial District, Los Angeles — *S. Charles Lee, Architect*

THE INDUSTRIAL SUBDIVISION, or "district," is by no means a new idea, but is one that has seen much development in the postwar industrial expansion. The advantages of prearranged rail lines, roads, utilities have been attractive to small factories. Frequently, in fact usually, there have been further advantages of efficient and economical construction, so that many of the factory management's building problems have been solved for them by specialists of the district.

The International Airport Industrial District at Los Angeles is one that has developed rapidly in the last year or two, until the site plan for its 95 acres now shows more than 40 plants, with more in progress. It is being developed by Samuel Hayden and S. Charles Lee, architect, with Frank A. Schilling as project manager. There are 120 plots, each slightly over a half acre, zoned for M-2 light industrial buildings. There are certain controls over plans, set-backs, parking provisions, and so on, so that there are guarantees of continued smooth operation.

Virtually all of the buildings use the Precastructural system of tilt-up concrete construction, with methods and modules standardized. The standard spacing of trusses, based on the maximum allowable length of 2 by 8 rafters spaced 24 in. o.c., automatically establishes a modular length of side wall panels for 18 ft 5 in. bays. An early fault of some precast wall panels — shrinkage cracks at corners of window and door openings — was eliminated by the use of diagonal steel in the panels.

The standard practice on the Hayden-Lee tract has been first to prepare the grade for the floor, whether it be ground level or car height. The isolated footings on which the wall panels rest are then poured, then a strip of floor of suitable width is laid, in checkerboard pattern to control cracks. Next the floor is coated with a bond-breaking agent — and simple wall forms are placed on the slab in a horizontal position. Steel sash, held in forms, are then placed, followed by reinforcing steel, and the concrete poured. After the required curing time has elapsed, the wall panels, weighing up to 30 tons, are raised by heavy truck cranes or derricks, placed in vertical position and braced by means of adjustable braces. Column steel and enclosing forms are erected and the columns poured, after which the trusses, which have been built and assembled on the job, are raised, and the roof completed.

Typical arched truss spans 75 ft, and typical building combines so many units of space 18 ft 5 in. by 75 ft. Usually about 10 per cent is devoted to office space, and fronts are given treatment to suit the client.

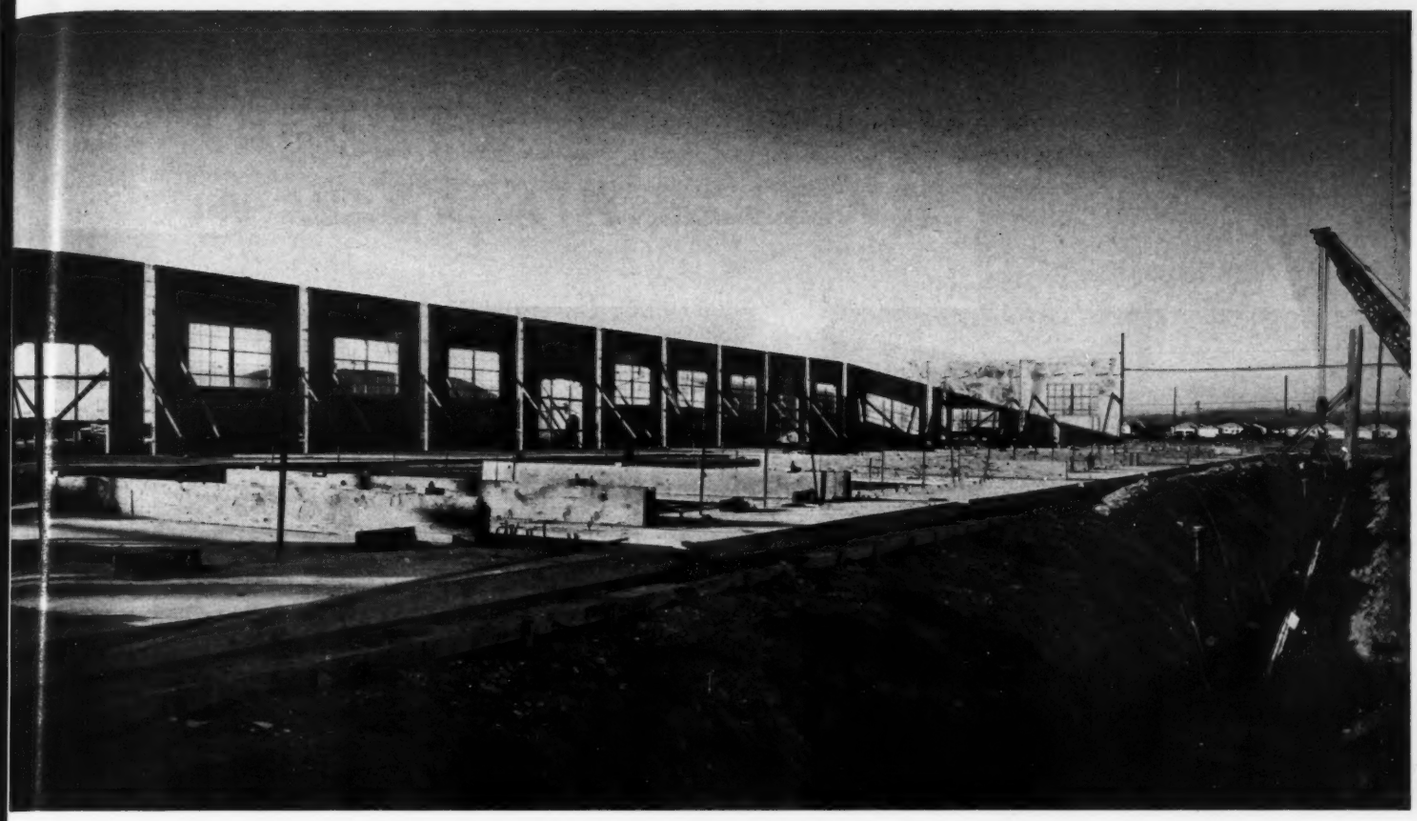
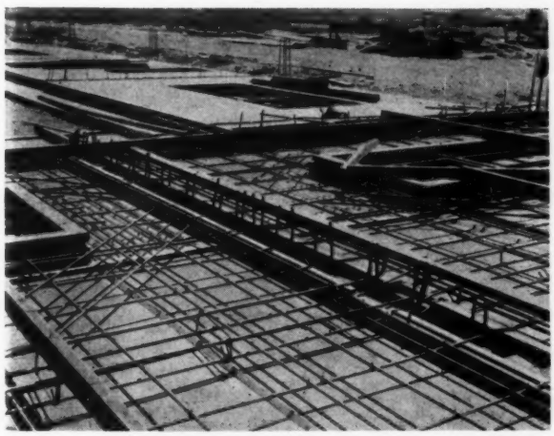


Photo: Julius Shulman

DISTRICT

Samuel Hayden, Builder







Various stages in the tilt-up process in which side wall panels are poured on the floor, raised into position and joined by poured columns. Wall panels are dimensioned to fit an 18 ft 5 in. column spacing, usually are 12 ft high. Roof trusses, 75 ft, are built on site

Most plants at International Airport Industrial District are small factories, making small products or parts — plastics, food products, sheet metal products, electronics, cosmetics, and so on. Buildings look much alike except for the fronts, where trademarks and promotional displays show strongly as the determinant for esthetics

Photos: Julius Shulman













TRENDS IN WARM AIR HEATING

Part 1: Houses

METAL SHORTAGES combined with high building costs are encouraging novel designs of warm air heating in houses. This does not imply that these systems are only substitutes. It does mean that they lend themselves to the application of non-critical materials, that the structure itself can be made part of the heating system to reduce costs, and that a deterrent to their more widespread use has been the lack of correlated performance data and of knowledge concerning how air behaves in unorthodox distribution systems.

This article reviews many new types of warm air heating and shows examples of non-critical materials being used. It also reports the results of some current laboratory research and field investigations to show that these systems meet present-day comfort standards, and that proper attention must be given to the design of the system, including site selection as well as location of ducts. Most of the discussion will be devoted to the basementless house, but other examples show systems for houses over crawl spaces and houses with basements.

Concepts of warm air heating have had to be revised in line with modern house building practices such as the concrete floor slab, extensive use of glass, application of the panel heating principle, the desire to save cubage and to cut the cost of the mechanical system, and the desire for greater flexibility in planning.

Non-Critical Materials

It was natural that many non-metallic materials would be used for ducts in concrete slabs, as well as traditional galvanized ducts and less conventional galvanized downspouts (see ARCHITECTURAL RECORD, Dec. 1948, pp. 135–6), the governing factors being the type of system, availability and cost of materials, and local labor practices.

Following is a list of non-metallic duct materials and some systems being used that require practically no metal: (1) cellular clay tile, (2) clay pipe (sewer tile), (3) concrete pipe, (4) plastic pipe, (5) pre-cast hollow concrete slabs, (6) fiber pipes impregnated with plastic, (7) asbestos pipe, (8) wood sleepers over a concrete slab (warm air panel), (9) furred down ceiling of wood and gypsum board (ceiling panel), and (10) crawl space heating.

Space Saving Equipment

Some of the new warm air heating systems in which air is admitted to the rooms have many inherent advantages. They can provide ventilation, banish odors, and control humidity. They respond rapidly to outside air temperature change. They permit cooling as well as heating. Air blankets windows to counteract the effect of their low temperature.

Air's biggest disadvantage is its low density and specific heat, which means that a much larger conductor must be used to deliver heat by air than by water or electricity. This need not be a disadvantage where the warm air supply and return ducts are part of the structural slab, but it could be with conventional forced warm air. High velocity warm air systems with small 4-in. ducts have been developed to overcome this difficulty, especially in houses of more than one story.

Warm Air Perimeter Heating

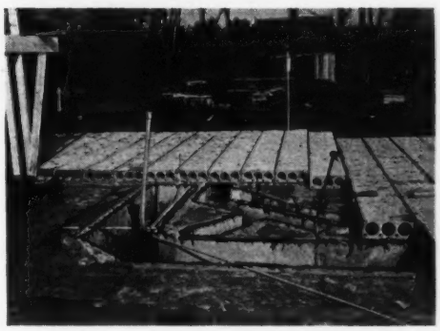
In this article the term "warm air perimeter heating" designates systems which heat primarily by convention, forming a curtain of warm air in front of windows and at the outside walls of the house at the point of greatest heat loss. It is estimated that from 60 to 80 per cent of the heat loss from a basementless house occurs here. There are three "perimeter" methods of heating concrete slabs.

Perimeter Loop System. The perimeter loop system utilizes a continuous duct loop around the perimeter of the house, located 2 in. beneath the concrete and from 3 to 5 in. in from the edge of the

Non-Critical Duct Materials



Stock, three-cell clay tile



Hollow-core structural concrete slabs



Concrete pipe



Above: Plastic impregnated fiber tubes

Below: Vitreous clay pipe



WARM AIR PERIMETER HEATING

slab. This loop is then connected to a warm air plenum in the concrete slab by means of feeder ducts. Warm air is delivered into the rooms through registers placed in the floor beneath the windows and opening into the perimeter loop duct.

Radial System. The radial system also utilizes registers placed in the floor beneath the windows, but differs from the perimeter loop system in that a separate warm air conduit is installed from each register location to the warm air plenum cast in the concrete slab. Floor surface temperatures between registers may not be as warm as with a perimeter loop system.

Lateral System. The third method is the lateral system, in which a series of small, parallel ducts are installed in the floor from a central distribution duct that runs the entire length of the building to two collecting ducts on either side of the building. It is estimated that heat from the loop system and the radial system is about 30 per cent radiant and 70 per cent convection.

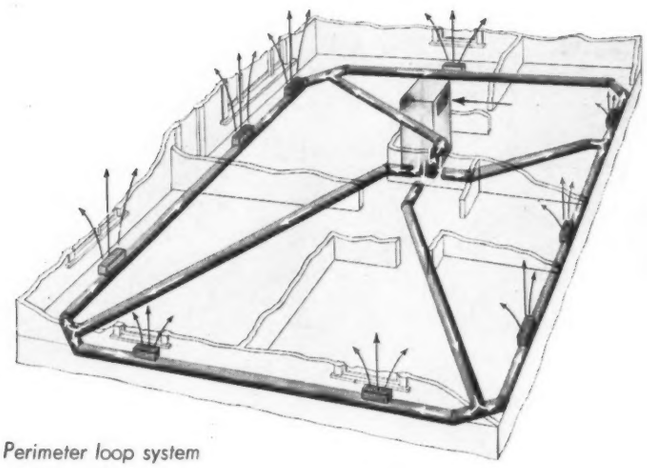
Design Considerations. Air flow through the perimeter duct must be adequate and the temperature must be high enough to maintain comfortable floor temperatures. With a low velocity air flow, the temperature drop in the ducts is too great. Most of these systems are designed for duct air velocities, particularly in radial ducts, of between 600 and 800 ft per min.

Radial feeders must be spaced at intervals along the perimeter duct not greater than 25 to 30 ft, and there should never be more than three outlets between any two feeders. A register must never be located closer than 2 ft to the intersection of a feeder duct and the perimeter loop duct. Usually it is best to have an intersection of a radial feeder duct and a perimeter loop duct at the point of greatest heat loss.

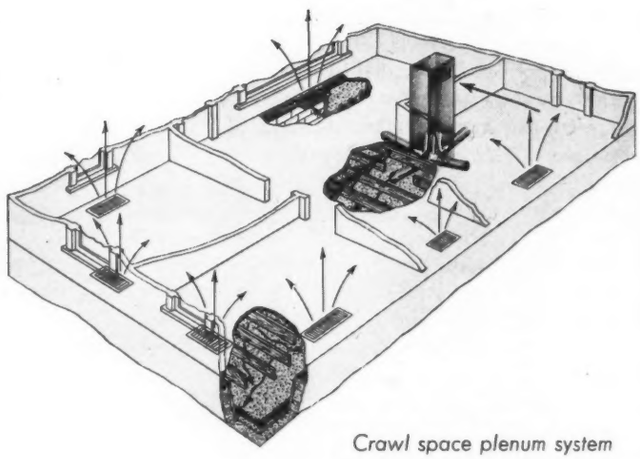
The feeder ducts should slope downward toward the plenum so that they will be at least 5 to 6 in. beneath the slab at the point where they enter the plenum. This pitch places the feeder ducts farther beneath the floor surface at their hottest point so that the floor surface temperatures will not be excessive. Registers should be placed from 5 to 7 in. in from the inner surface of the outer wall.

Crawl Space Heating. In houses built over a crawl space, it may serve as a warm air plenum. The warm air is delivered into the crawl space from the furnace through a suspended sheet metal duct, which extends down from the furnace into the crawl space, and then through short ducts that direct the air into all corners of the house. If the furnace is centrally located, a minimum of four ducts, probably 6 ft long and 6 or 8 in. in diameter, will be sufficient. If the furnace is located at one end of a long, rambling building, it may be necessary

(*Continued on page 194*)



Perimeter loop system

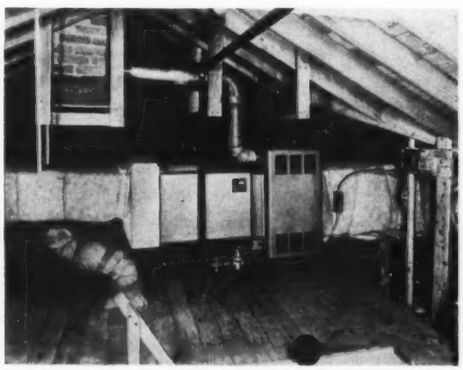


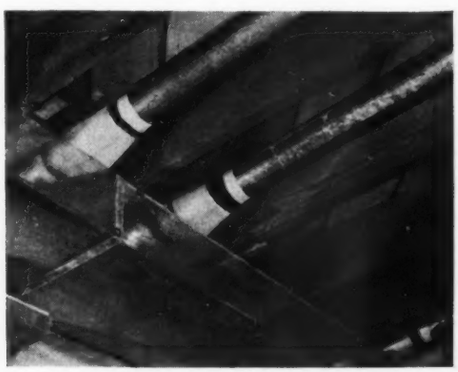
Crawl space plenum system

Space-Saving Equipment

Left: vertical, downflow furnaces fit compactly into a small utility room. In small houses, the return air flows freely through the rooms and back through a louvered opening in the door of the utility room. Center: horizontal furnaces save space when installed in an unused attic. Right: high velocity systems blow air through small 4-in. ducts

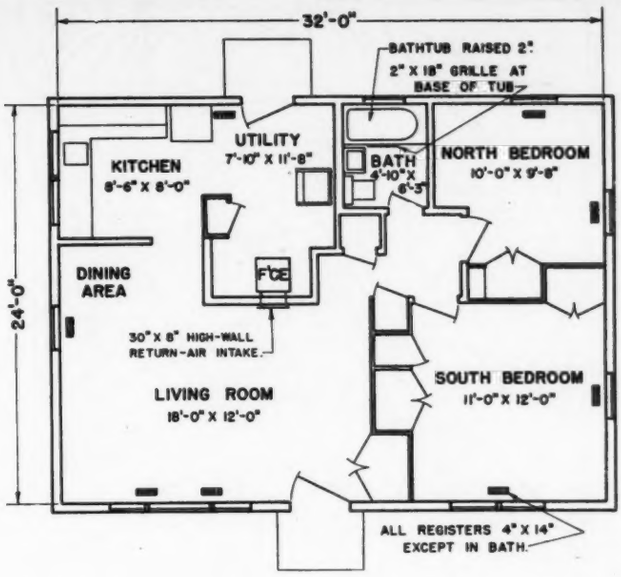


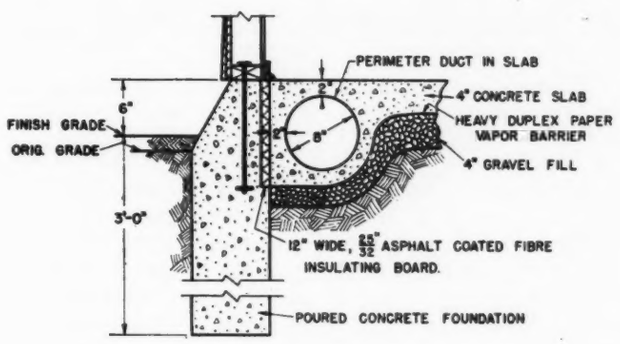




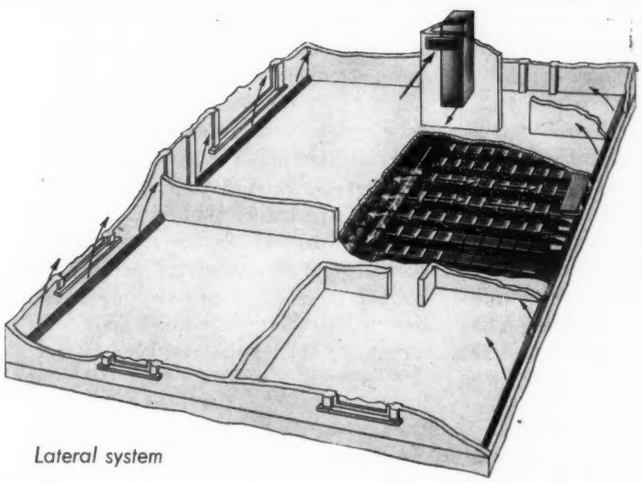
Graphs and a table on this page and the next show the performance of a perimeter loop heating system with radial feeders installed in Warm-Air Heating Research residence No. 3 at the University of Illinois. This type of system is illustrated in the drawing farthest left across the page. The system consists of an 8-in. warm-air duct embedded in the concrete slab in the form of a single loop around the periphery, and a series of 8-in. radial feeder ducts, connecting the perimeter duct with a subfloor plenum. Four arrangements of feeder ducts were studied as indicated in the sketches on this page marked A, B, C, and D. At the bottom of the page are given the floor to ceiling air temperature differentials for a typical winter day. And on the next page, floor temperatures are shown for duct arrangement "A".

The tests are part of a continuing research program under the sponsorship of the National Warm Air Heating and Air Conditioning Association.

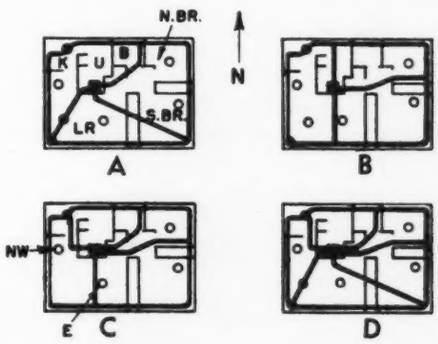




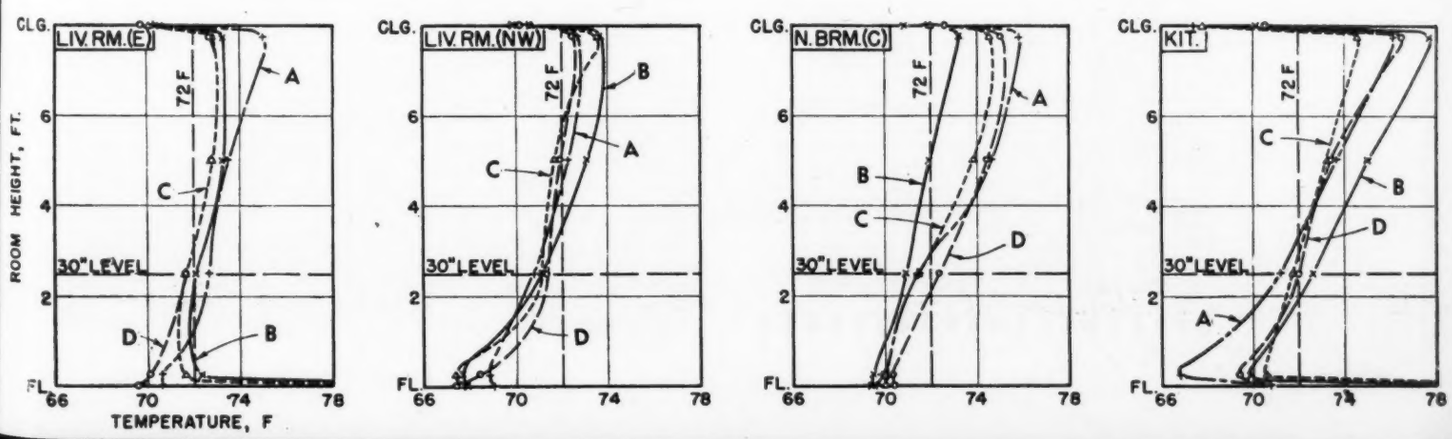
Above: plan of Warm Air Research Residence No. 3 at the University of Illinois and section through floor slab showing warm air duct located at periphery of the slab; note insulation and vapor barrier

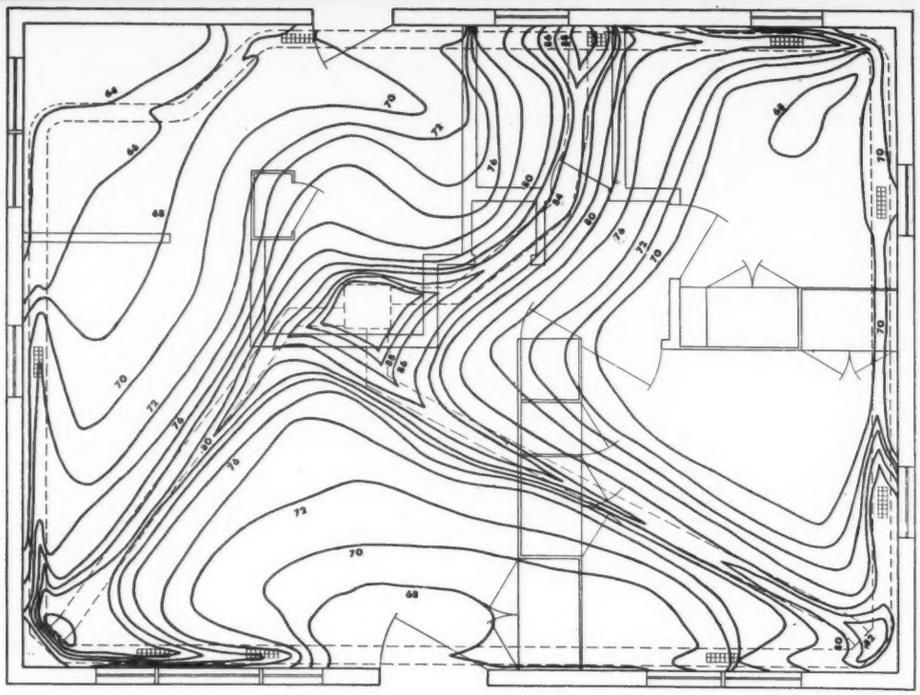


Lateral system



Right, below: four duct arrangements were tested to determine their effect on room air and floor surface temperatures. Below are floor to ceiling air temperatures for this weather: no sun; wind 2–7 mph; outdoor temp. 18–21 F. Average differential for D was only 2.7 F, attributable to greater panel effect





Floor surface temperatures for Residence No. 3 with outdoor temperature 30–35 F, no sun

Heat Balance for Perimeter Arrangement "A"

Items	Measured Values, Btu per Hr
Subfloor Loss	6,280
Above-Ground Losses	16,100
Total Heat Loss	22,380
Heat Supplied Above Ground	
a. Warm air from floor registers	9,350
b. Panel Heating effect	3,090
c. Furnace casing heat transfer	1,100
d. Flue pipe heat transfer	370
e. Electrical energy	1,190
f. Heat from Occupants	1,000
	16,100

Note: Values based on outdoor temperature of 35 F and wind velocity of 10 mph, SW. No solar heat gain occurred.

to install one or two ducts (8 to 12 ft long or longer) to get the heated air into the far corners of the crawl space.

The air is then delivered into the rooms through registers placed in the floor beneath the windows and connected directly with the open crawl space. There is no duct work connecting each individual register to the furnace.

Crawl Space Treatment. It is fundamental that the site be well drained and properly graded, and every precaution be taken to avoid the collection of ground water in the crawl space or around its foundation walls.

The crawl space area up from the foundation wall must be air-tight.

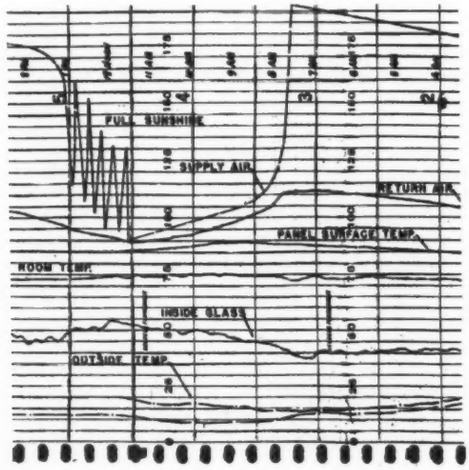
The inner surfaces of the foundation walls should be insulated, and at least one surface should be treated to act as a vapor barrier. The *U* factor of foundation walls should be about that of the walls in the habitable area. Outside wall surfaces between the joists should be insulated with a 2 or 3 in. thick batt.

The ground in the crawl space should be covered first with a coarse gravel about 2 or 3 in. thick, particularly if the house is located on ground with a high water table. The gravel should be covered with roll roofing of at least 55 lb weight with the edges lapped and sealed, and the membrane brought up the side walls 6 in. and sealed to them. The moisture membrane is covered with 1 or 2 in. of sand or coarse gravel for mechanical protection and to keep the heat from direct contact with the roofing.

Field tests have shown that ceiling temperature differentials, measured 3 in. above the floor and 3 in. below the ceiling, are from 1 to 3½ F, and that floor surface temperatures in the center of the rooms are in the low seventies, and the floor surface temperatures within a few inches of the walls averaged about 65 F.

There is some drying out of the wooden structural members exposed to the warm air within the crawl space. Shrinkage is an accelerated action of a normal process. In the average house over a basement with wood floor construction, this shrinkage goes on for

Portion of graph showing results of tests on a "split" system with air flowing in sinuous pattern through cellular clay tile and admitted to the living room under windows. Note that room air temperature changes only slightly with full sun



Photograph is of a typical warm air floor panel. Stock, unglazed tile was employed, 12 by 12 by 4 in. Notice that the tile was cut to form a "U" turn. Tile is covered by 2½ in. of concrete



several years. In the crawl space warm air system, it will take place in the first year.

Warm Air Panel and Split Systems

Some engineers advocate panel heating, or, the "split" system in which the air follows a sinuous pattern in the floor or ceiling panel and then is "bled" into the room through small openings near windows.

For large houses where the total heat loss exceeds 100,000 Btu/hr, one independent heating system can take care of the total heating load, if a panel or "split" system is used. But with "perimeter" systems, when the heat loss is greater, two or more independent systems are required; and the systems can then be zone controlled.

These engineers also believe that most of the heat from the air should be dissipated in floor or ceiling panels, resulting in surface temperatures around 85 F and 100 F respectively. Temperature of air to rooms approaches that of the room.

One consulting engineering firm describes their floor panel heating system for residences, comprised of cellular clay tile topped with 2½ in. of concrete, as follows:

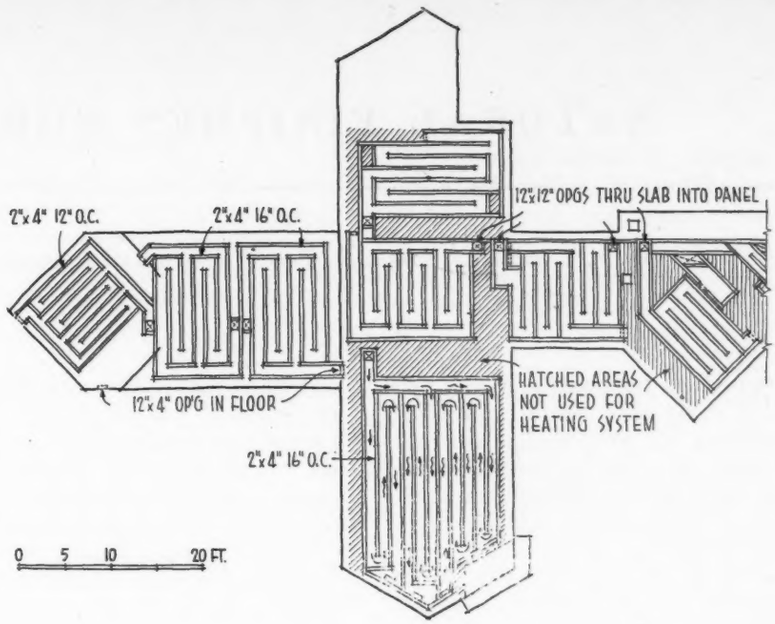
The residential installation is controlled by room thermostat and conventional warm air bonnet control except that continuous fan circulation is not used. When the thermostat signals for heat, the burner provides constant heat input to the slab until the thermostat has been satisfied. The fan is controlled by a high-low limit setting. If the fan ran continuously after the thermostat shut off the burner, the slab would continue to store heat, and the house would become too warm.

Night set-back is not recommended because then the system is forced to operate in the morning for a good while after sunrise when the outside temperature and solar effect is gradually increasing. Overheating will result.

With a fixed room thermostat setting, the off period of the burner is from 8 a.m. to around 4 p.m. During this period, the solar heat is absorbed by the floor slab, which consists of a 2½ in. concrete mass and the tile air space below providing a low heat storage. High heat storage is prevented.

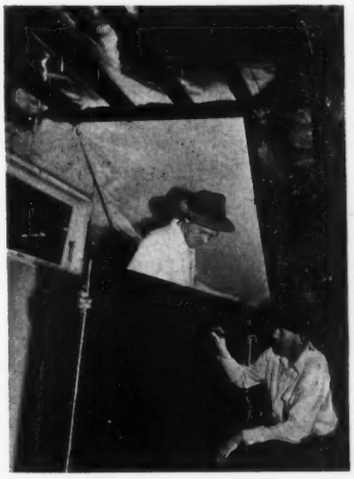
Other systems making use of noncritical materials include a floor panel system with wood sleepers laid on a concrete floor slab, and a plywood subfloor above. Ceiling panels are being constructed with gypsum board furred down from ceiling joists, and the furring strips act to guide the air in a sinuous pattern. See the two sketches on this page.

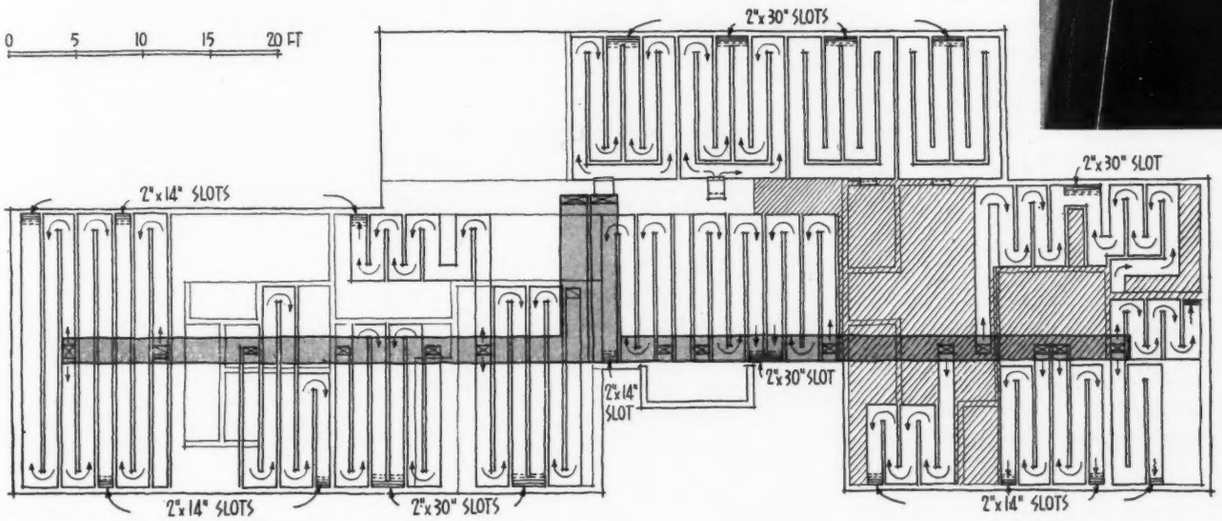
The editors wish to acknowledge the help of the following people in providing material for this article: C. W. Nessell and Randall Nelson, National Warm Air Heating and Air Cond. Assoc.; R. W. Roose, University of Illinois; and Richard P. Goemann of John D. Dillon, Consulting Engineers.



Above: portion of a large house laid out with a floor panel system consisting of wood sleepers over a concrete slab, all covered by a plywood subfloor. Trench underneath distributes heat to panels

Below: layout of a typical ceiling panel system. Furred down ceiling is used similar to photo (note reflective insulation). Gray tone indicates large distribution duct to front panels. Slots admit air near outside walls





NATURAL FINISHES FOR EXTERIOR WOOD

By F. L. Browne, Chemist, Forest Products Laboratory, Madison, Wisconsin

NATURAL FINISHES for exterior wood siding have become increasingly popular, and when applied and maintained correctly usually have been found attractive and satisfactory. On the other hand, natural finishes applied without the knowledge of what they require often have been disappointing. Woods that have a rich brown or red color of their own, such as redwood and western red cedar, lend themselves particularly well to natural finish, though woods of paler color, such as cypress, pine, knotty pine, and Douglas fir are sometimes finished in that way.

Natural Finishes Need Frequent Renewal

The first thing to learn about natural finishes is that they are much less durable and, therefore, must be renewed much more frequently than coatings of paint. Paint should go at least four years before needing renewal, but natural finishes nearly always need renewal at least once a year. On parts of a building that are fully exposed to sunshine and rain, natural finish usually needs renewal every six months until it has been done three or four times, after which the intervals may be somewhat longer, though seldom more than 12 months. On more sheltered parts of the building, yearly renewal may suffice, and in deep shade, the intervals may be even longer.

Need for renewal of finish becomes evident when the luster or glossiness originally imparted to the wood by the finish fades to the dullness of unfinished wood. Another test is to splash water on the surface to see whether the water rolls off quickly in droplets or spreads on the wood and is soon absorbed. In the latter case, fresh application of finish is in order. Needed renewal of finish must not be delayed too long. If it is postponed unduly, the wood begins to acquire a gray color that turns still darker gray when more finishing eventually is done. To restore the desired color after serious grayness has developed, the surface must be scraped or sandpapered until the wood is bright again. If the wood is allowed to become roughened and cupped as well as grayed by weathering, the restoration of a smooth, bright surface becomes very laborious. For that reason, the timely renewal of natural finish simply cannot be neglected. Similar neglect of coatings of paint is less serious.

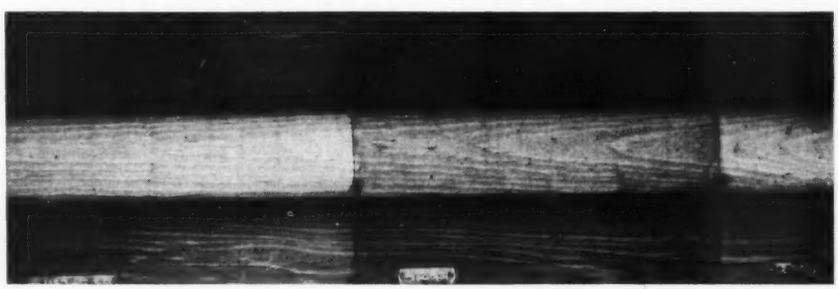
There is no way of keeping wood very long with exactly the color and nearly complete absence of gloss with which it comes from the lumber yard. A finish that could do so would enjoy a good market. Any protective finish that can be applied necessarily penetrates slightly into the wood, displaces air from wood cells, and seems to deepen the color of the wood even if the protective material has no color of its own. Moreover, by filling the pores in the wood, the protective material makes the surface smoother and, therefore, imparts at least a moderate degree of luster or glossiness. As time passes, there is further change of color because sunlight gradually darkens the color of most woods by changing yellows and reds toward brown. Even the weakened sunlight that gets through windows eventually darkens interior woodwork. If, in addition, the protective finish itself darkens with age, as most of them do, still more change in color must be expected.

Natural finishes may be divided into three broad types, oil finishes, wood sealer finishes, and the varnish finishes. They differ in the composition of the material used, in the appropriate methods of application, in the resulting appearance, and in important characteristics of performance.

Oil Finish

Oil finish has the lowest degree of luster or gloss. It also darkens the color of the wood more than other natural finishes do because the oil penetrates farther into wood. Also, the oils are inclined to continue darkening with age more than most sealers or varnishes do. The darkening, however, can be largely corrected by incorporating a little pigment in the oil as is described later.

The simplest and oldest oil finish is ordinary linseed oil, either raw oil or boiled. Unless the work can be done in warm, dry weather, it is best to use boiled oil or else to add about one-sixth of a pint of liquid paint drier to a gallon of raw oil. Most painters also like to add some volatile thinner to linseed oil, thinking that it makes the oil penetrate deeper. That is not the case, but thinning the oil helps to avoid leaving any excess oil on the surface. Turpentine, mineral spirits, or other thinner sold for mixing with paint may be used, but not more than a half gallon of thinner should be added to a gallon of oil.



Portion of a Forest Products Laboratory test panel at Madison, Wis., treated with a "redwood finish." It has been exposed to the weather for 7 months, facing south. The top board is redwood followed by white pine and cypress. Experts recommend refinishing once a year after the second application

Natural finishes for major areas of wood exteriors are a relatively new development. This report deals with the various misunderstandings and difficulties that have come up in the Forest Products Laboratory's consultations with architects and others. When the requirements and limitations of natural finishes are considered in advance, and the necessary precautions have been taken, natural finishes have been found both practicable and pleasing.

The oil may be applied by brushing, spraying, or mopping. For new wood, two good coats are needed. But it is most important to see that all of the oil sinks into the surface of the wood. If, after the second coat has been applied and has stood 20 to 30 minutes, there are any glossy places where excess oil stands on the surface, it should be wiped off before it has time to harden. Coatings of linseed oil that stand on the surface are unsatisfactory, not only because they are too glossy, but because they are inclined to run or to wrinkle when drying. These coatings of oil are too soft, tend to hold dirt, and become mildewed easily. In renewing the oil finish after it shows signs of wear, one fresh application should suffice.

Commercial products are often called log oils or log cabin oils because the natural finishes for exterior woodwork first became popular for summer cottages built of peeled logs. These commercial products are usually made of bodied linseed oil, tung oil, or other drying oils and thinners. Bodied oils have been heated or treated chemically to increase the viscosity greatly, after which a greater proportion of thinner must be added to restore suitable viscosity for application. The bodied oil finishes do not penetrate so deeply into wood as raw or boiled oil, and, therefore, do not darken the color of the wood so much. The product approaches the properties of a wood sealer more and more closely as the degree of bodying is increased.

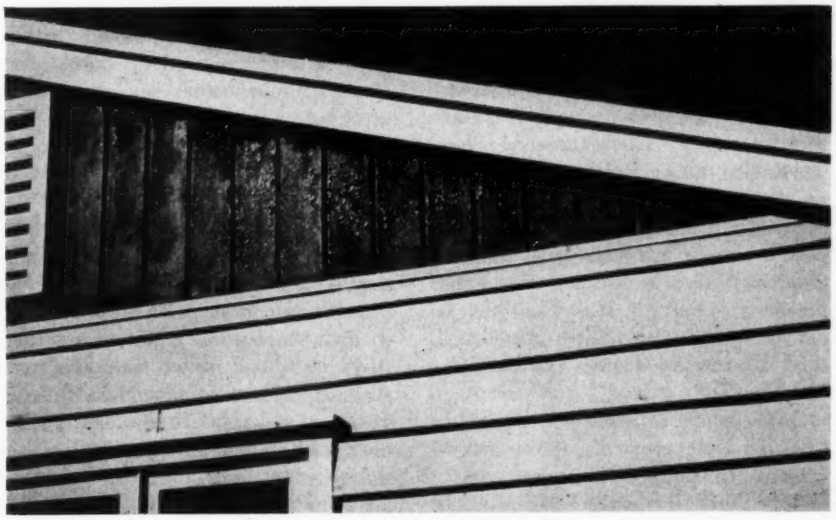
The commercial oil finishes should be applied and maintained just as has been described for the raw linseed oil finish. Since a bodied oil is more apt to leave an excess standing on the surface than raw oil is, special care should be taken to wipe off the excess before it becomes hardened.

The oil finishes give their best service in dry places where there never are any prolonged periods of dampness. Where dampness may linger for some time, the oils are subject to attack by molds, usually called mildew. A dark, almost black discoloration may result. Mildew can be prevented by incorporating suitable preservatives in the oil finish. Some, though by no means all, of the commercial oil finishes already contain preservatives. If so, the kind and amount should be stated on the label.

Suitable Preservatives. If linseed oil or a commercial product not containing preservative is used, there are two ways of incorporating suitable preservative. One way is to mix one of the concentrated solutions of pentachlorophenol or other chlorinated phenols with the linseed oil, instead of adding turpentine or paint thinner. If the directions on the preservative say that it is to be mixed with three times its volume of fuel oil for use as a wood preservative, it may be mixed one volume of concentrated preservative to three volumes of linseed oil for a linseed oil finish. The other way of accomplishing the purpose is to apply one of the water-repellent preservatives to the wood before the linseed oil finish is put on. In the second case, most renewals of the finish can be done with the linseed oil alone, for the treatment with water-repellent preservative need not be repeated for three or four years.

Adding Pigments. The oil finishes may be further modified to advantage by incorporating a small amount of pigment in them. Usually a pigment of reddish-brown color simulates the color of the heartwood of redwood or red cedar.





Some natural finishes whiten (loss of adhesion) and scale when applied to rather large areas of exterior siding. At left is a 3-year-old house in Arizona which had been refinished 1 year before the photo was taken. Above is an 18-month-old house in Madison, Wis., which had been refinished only 6 months before

The pale color of any sapwood present in the lumber is thereby changed to resemble the heartwood more closely, and such woods as pine or Douglas fir are given a richer color. Moreover, better maintenance of color is achieved because the presence of the pigment tends to mask the gradual darkening in the color of the wood itself. If renewal of finish should be delayed until some boards become slightly grayed from weathering, the pigment helps to restore the desired color, provided the graying has not been allowed to go too far. Finally, presence of a little pigment usually adds appreciably to the durability of the finish. Of course, the amount of pigment must be small, well short of the point at which it would give a painted or even a stained appearance.

A number of the commercial oil finishes on the market contain pigments. Linseed oil or prepared oils without pigment can be pigmented just before use by adding a small proportion of burnt sienna ground in oil. About one-half pint of sienna-in-oil to a gallon of oil may be right, but the exact proportions are best determined by trial on sample cuttings of the wood.

Wood Sealer Finish

Like the oil finish, the wood sealer finish is a penetrating finish that should not be permitted to build up on the surface into a glossy coating. Sealers do not penetrate wood so deeply as oils do. For that reason, the sealers usually darken the wood less and give the surface more luster or glossiness than the oils do. The sealers, however, are less glossy than varnish finishes unless too much sealer is applied and the excess is not wiped off.

In composition, wood sealers are much like varnishes except that the sealers contain more thinner and less nonvolatile matter. Both are made as a rule by cooking resin and drying oil together in suitable proportions, incorporating driers, and thinning to proper consistency. Many kinds of resin, both natural and synthetic, may be used. The difference between a sealer and a varnish lies more in the method of application than in the composition. Wood sealer finish, like the oil finish, sinks into and saturates the wood surface without forming a continuous coating of appreciable thickness over it, as varnish finish does.

If excess sealer finish is not wiped off, what may start out as a sealer finish will end up, after one or two renewals, as a varnish finish. A good spar varnish or marine spar varnish will give sealer finish if thinned with about an equal volume of turpentine or other paint thinner and applied like the oil finish.

Although most wood sealers are more resistant to mildew than the oils are, sealer finishes are more readily attacked by fungi than are paints. Wherever there may be lingering dampness, it is advisable to have a preservative in the sealer finish. Some of the commercial products already contain preservative. Otherwise, preservative may be incorporated in a sealer finish by either of the two methods suggested for oil finishes.

Some commercial wood sealers contain pigments for the same desirable purposes already described for oil finishes. The user may also add pigments to sealers lacking them by following the methods suggested for pigmenting oil finishes.

Varnish Finish

Unlike either oil finish or sealer finish, varnish makes a highly glossy coating of appreciable thickness covering the wood. Varnish may not darken the color of the wood to begin with much more than a sealer does, but with the passage of time, there may be more darkening caused by change in the varnish itself than would be the case with a wood sealer.

Varnish is applied by brushing or spraying. At least three coats are needed for new wood, but for renewal, one coat at a time is sufficient. On new wood, the first coat may be thinned moderately with turpentine or other paint thinner. Shellac must not be used for the first coat on exterior surfaces, even over the knots in knotty pine. Succeeding varnish coats are expected to stand out without penetrating the wood and, of course, none of the varnish is wiped off.

Where there is dampness at times, varnish finishes need preservatives against mildew much like sealer finishes. Unless the varnish already contains a preservative, it is advisable to apply a water-repellent preservative to the wood before starting to put on varnish. It is seldom practicable to add a concentrated preservative to a varnish because varnish cannot stand much addition of thinner. Similarly, it is not good practice to add pigments to varnish. If pigmentation is desired, it is best to apply a pigment oil stain to the wood first and then to varnish over it.

On the whole, experience with varnish finish on large areas of exterior woodwork such as siding has not proved satisfactory. Often the varnish finish develops milky, opaque patches where the coating has lost its adhesion to the wood without breaking open. Some varnishes craze or crack in an unsightly manner, after which renewal of the finish is difficult.

Finishing Hardwoods

The methods of natural finishing described so far are suitable for all of the softwoods and for hardwoods with pores no larger than those in birch. Hardwoods with pores larger than those in birch, however, usually need special treatment for the pores after water-repellent preservative, if used, has been applied, but before oil, sealer, or varnish is put on. The treatment for pores is the application of a paste wood filler.

Paste wood filler is applied by thinning it with paint thinner to a consistency suitable for brushing, like paint, but brushing across the grain of the wood rather than with the grain.

For varnish finishes on hardwoods with large pores, use of wood filler is necessary to avoid danger of premature failure of the finish. For wood sealer finishes, the use of filler is strongly recommended, though it may not be essential. For oil finishes filler may be omitted.

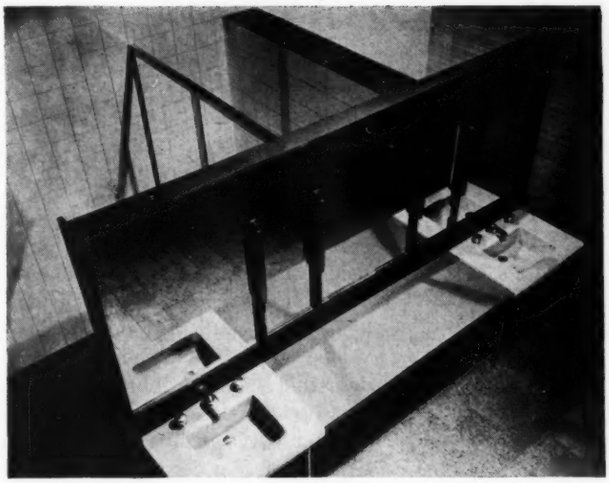
Finishing Doors and Windows

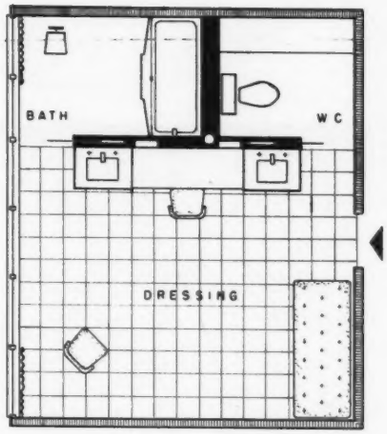
Doors and windows usually need more careful maintenance of protective finish than is necessary on wood siding. Paint or trim enamel affords the most reliable means of maintaining the needed protection. Careful consideration should be given to the choice of paint or trim enamel for the exterior surfaces of doors and windows even when natural finish is selected for the siding. Paint of a color matching that of the naturally finished siding may be used if desired.

But if natural finish is wanted for doors or windows, it is probably best to apply a full varnish finish consisting of three or four coats, because varnish gives better protection against weathering than oil or sealer finishes do.

Rust Stains

Woods that contain tannins, such as redwood, red cedar, oak, and chestnut, readily produce a black color when brought in contact with iron rust and a little moisture. Other extractives present in many woods may also form strongly colored compounds with iron. Exterior woodwork, therefore, should always be fastened in place with corrosion-resistant nails, screws, or other fastenings.





Left: Free-standing T-shaped partition subdivides bathroom facilities in separate compartments. Above: Plan of typical "T" core arrangement

New Bathroom Planning Service Accents Flexibility and Economy

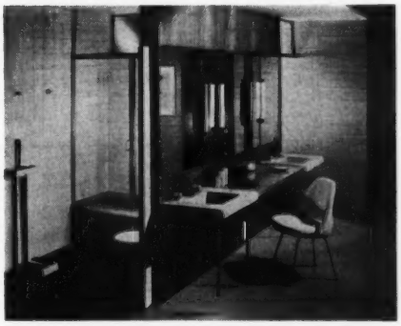
One of the first fruits of a new *Crane* service which will offer suggestions for bathroom plans, room designs and remodelling designs is the development of a family "T" bathroom, designed by Edward L. Barnes, Architect. A number of varied and flexible arrangements are possible with the scheme, which utilizes a central T-shaped core, either free-standing or extended to the ceiling, subdividing a room into separate compartments for tub, lavatory and water closet, so that these fixtures may be used privately and simultaneously. Sizes of compartments can be adjusted to suit particular family needs and the scheme is adaptable for homes from luxury to modest classes.

Of especial interest are economies in construction made possible by the plan. Since fixtures are placed back-to-back around the T core in which all the plumbing is "stacked," installation of costly additional roof vents and soil pipes is eliminated. In addition, in the T plan there is less distance between piping connections of the three main fixtures than in the normal "minimum" bathroom in which fixtures are ranged along perimeter walls. Perimeter walls in the T plan, besides, can be planned with complete flexibility since they are not tied down by plumbing. Any wall can be a closet wall, windows may run on any side, and access is possible from anywhere on the perimeter. Separate access from different adjacent rooms, combined with the separation of facilities in the scheme, often makes it possible to eliminate entirely the need for a second bathroom or guest washroom.

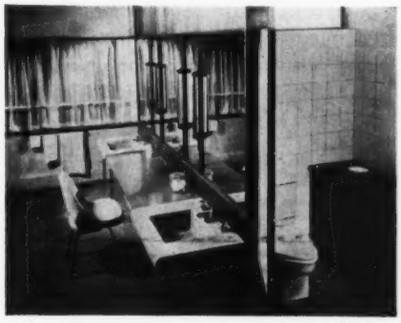
A variety of fixture arrangements is also possible with the plan. The dressing room may have one, two or more lavatories. The toilet room may have its own lavatory with separate access to the hall or it may be simply a room for the water closet and the utility cupboard. The bathroom may incorporate a tub shower or a stall shower and, if desired, a separate toilet. Exact arrangement of fixtures can be adjusted to specific needs.

Not only does the T plan permit simultaneous use of separate functions, it also allows additional use of the bathroom area for many secondary household functions and activities currently centered elsewhere in the house. Personal hygiene, dressing, make-up, exercise, sun-lamp bathing, and storage of clothes, linens and household equipment may all be transferred to the new multi-purpose room.

A dossier of plans and suggestions for bathroom and kitchen planning, including further specifications for the T plan will soon be available to architects, builders and home owners through dealers. Crane Co., 836 So. Michigan Ave., Chicago, Ill.

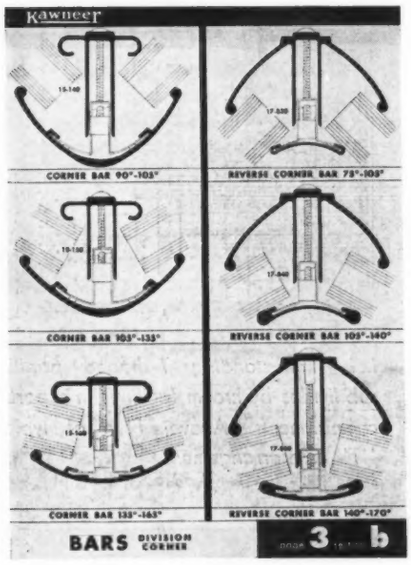


Above: Dressing room features Crane Criterion lavatory designed by Henry Dreyfuss and awarded N. Y. Architectural League Gold Medal. Bath is at left. Below: Dressing room with toilet compartment at right



(*Continued on page 308*)

LITERATURE FOR THE OFFICE



Page shows typical details of architectural metal products, facilitates specification and drafting

Architectural Metal Details

Portfolio of Construction Details for Kawneer Architectural Metal Products. A handy complete reference file of construction details for *Kawneer* architectural metal products is now available to architects and is designed to facilitate both specification and drafting entailed in the employment of the products. The manufacturer's complete line is included and the material has been divided into nine basic sections, such as Sash and Jambs, Trim, Facing Materials, etc. Each of these sections is clearly indexed and each sheet is marked with page and index number. Pages have loose leaf punchings so that the entire file may be kept either in its accompanying envelope or in a loose-leaf folder as desired. The loose-leaf arrangement further permits the draftsman to conveniently use the details on the drawing board, and, if necessary, to reverse the pages for opposite-hand details. All moldings are shown in full size and are fully dimensioned, and quarter-size typical details illustrating possible uses of the products are also included. 45 sheets, illus. The Kawneer Co., Architectural Service Dept., Niles, Mich.*

Radiant Heating

Radiant Sunshine Comfort for Every Heating Purpose (Catalog No. EL-16). Brochure gives complete specifications of Electriglas panels for radiant heating. A description of the unit is given and features of the thermostatic zone control are shown. Illustrations point out the features of baseboard panels and Dial-temp panels and also demonstrate the use of the automatic portable heaters. 8 pp., illus. Appleman Glass Works, Bergenfield, N. J.

Commercial Doors

Ellison; the Balanced Door. Brochure points out features of the manufacturer's commercial door, showing operation, hardware and construction details. Photographs of a number of varied installations of the doors in both new construction and remodelling jobs are included, and serve to illustrate a number of frame designs as well. Specifications and a list of other installations throughout the country are also given. 12 pp., illus., Ellison Bronze Co., Inc., Jamestown, N. Y.*

* *Other product information in Sweet's File, 1952.*

Heating Equipment

Airtherm Convectors (Catalog 702A). Catalog contains description of convectors for schools, institutions, apartments, homes, offices and public buildings. Working drawings point out the features of floor, wall and recessed cabinets, giving roughing-in dimensions for each type. Tables are given on steam capacity and forced circulation hot water capacity. Other hot water capacity data and typical convector specifications are also included in the catalog. 16 pp., illus., Airtherm Mfg. Co., 747 S. Spring Ave., St. Louis, Mo.*

Vinyl Cork Tile

Dodge Vinyl Cork Tile. Catalog demonstrates with illustrations the various types of interiors in which vinyl cork tile flooring may be used. Test results are given, pointing out the many features of this material. A complete color chart is included in the pamphlet which shows the available solid colors and marbleized patterns. Standard sizes are also shown and installation specifications contained in the brochure. 8 pp., illus., Dodge Cork Co., Inc., Lancaster, Pa.*

Fabric Wall Coverings

Two new booklets are now available on fabric wall coverings, giving illustrative information on each:

• *Joanna Vinylized Wall Fabric.* Booklet discusses the qualities of new plastic-on-cloth material. Gives a step by step presentation of the fabrication, application, wearing qualities and recommended uses of the vinyl coated fabric. Included with the brochure is a card of samples showing the 25 colors available, along with a larger sample of suitable size for testing. Booklet available if requested on firm's letterhead. 12 pp., illus. Joanna Western Mills Co., Wall Covering Div., 22nd & Jefferson Sts., Chicago 16, Ill.*

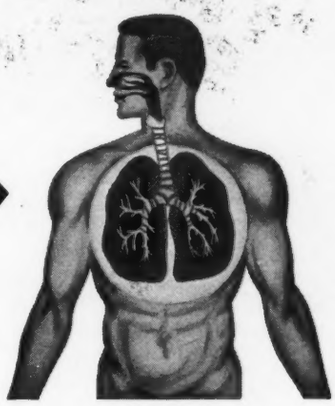
• *Fab-Rik-O-Na Cloth Wall Coverings.* Illustrated brochure describes the available types of this line of wall coverings, showing microscopic details of textures. Advantages and uses are discussed and specifications are given. Interior photographs are included in the pamphlet, illustrating several treatments. 4 pp., illus. H. B. Wiggin's Sons Co., Bloomfield, N. J.*

(*Continued on page 334*)

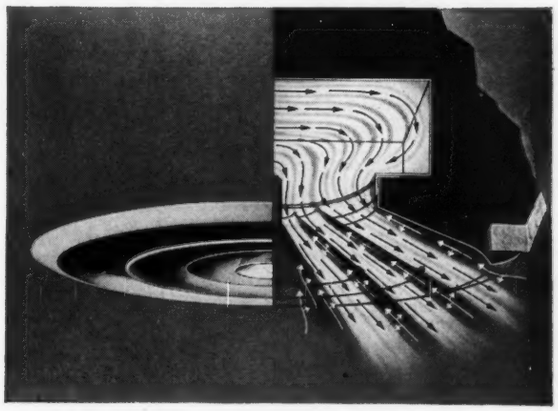
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Architect William Lynch Murray specified a Webster Moderator System to assure "controlled-by-the-weather" economy in this 13-story building; Webster Walvector ® to spread the heat the full length of exposed walls.

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Commerce Building, Harrisburg, Pa. Architect: William Lynch Murray & Associates. Mechanical Engineer: Benj. A. Johnson. Heating Contractor: Herre Brothers.

Inset shows the heart of the Webster Moderator Control. Variator and Electronic Pressure Control Unit shown here operate in conjunction with the following equipment not shown: Outdoor Thermostat, motor-operated Main Steam Control Valve, and extended tube orifices installed in each Walvector ® unit.

RADIANT HEATING SYSTEMS FOR HOUSES—16: Controls

By William J. McGuinness, Professor of Architecture, Pratt Institute

CONTROLS

Basic Assumptions

If domestic hot water need not be generated from the same boiler, the boiler may be used to deliver water at the lower temperature needed for radiant panels. However, since most modern installations produce both water for heating and domestic hot water from the same plant, it will be assumed that the boiler water temperature must be kept at about 180 to 200 F, and that some mixing device is needed to produce water in the usual range of about 100 to 150 deg for use in the radiant panels. The second assumption is that the fuel used is gas or oil, rather than coal. The systems of control described apply to these two fuels. The third assumption is that high- and low-limit aquastats are used to operate the automatically controlled gas or oil fires to keep the boiler water at a fairly constant temperature for use in the mixing devices.

Water Temperature Control

The common method of delivering water of the temperature required is to mix some of the hot water from the boiler with the cooler return water from the radiant coils. Fig. 16 shows three methods for doing this. The first of these uses gate valves, which may be adjusted manually to deliver water at the correct temperature. An improvement on this scheme is seen in the second example where a thermostatic mixing valve is used. It can be set to deliver water at any desired temperature provided the boiler water temperature is higher. Either of these is suitable for use with a circulator which operates at intervals to make up the heat losses as required. The third arrangement in Fig. 16 is a blending valve which constantly changes the temperature of the water delivered in accord with the dictates of indoor and outdoor bulbs, as described later. This valve is used with a circulator which operates continually, except that, occasionally, it is turned off for brief intervals when the room temperature exceeds that set for it. The graph in Fig. 16 shows two typical points on the curve of operations for such a

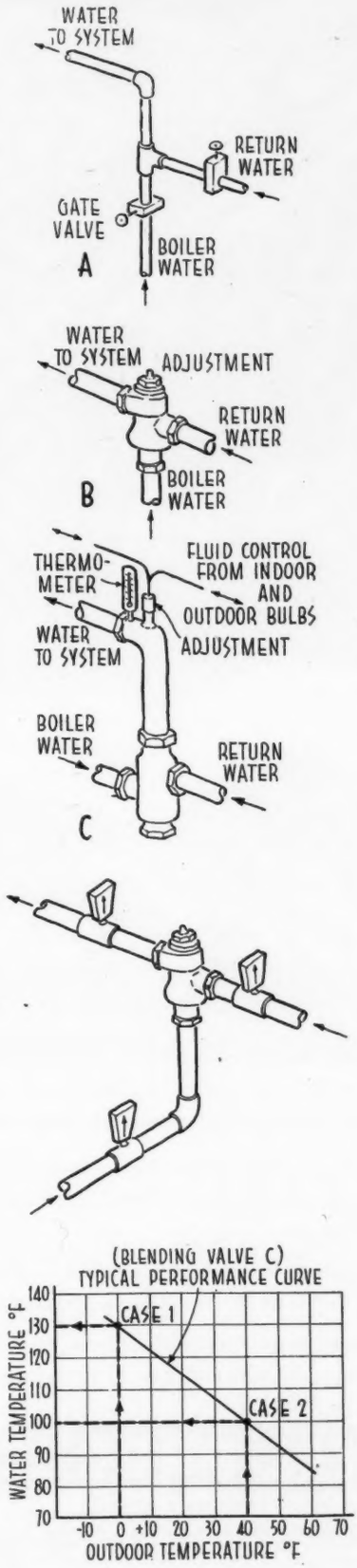


Fig. 16

Three methods of adjusting temperature of water for coils

A

Valves on return water and boiler water can be adjusted manually to deliver water to coils at proper design temperature. System works quite satisfactorily with intermittent use of circulator

B

Temperature control valve with thermostatic element will assure delivery of water at any predetermined temperature, provided boiler water temperature is higher. It is an improvement over "A" at some additional expense

C

When circulator is run continuously, temperature of water delivered to coils can be changed by this automatic blending valve. Control is by indoor and outdoor bulbs

In any system, liberal use of thermometers is recommended as an adjustment aid

Case 1. Design conditions. Water delivered at design temperature (130° F) when outside temperature is 0° F

Case 2. Mild weather. Water delivered at lower temperature, in this case 100° F, when outside temperature is 40° F

(Text continued on Sheet 18)

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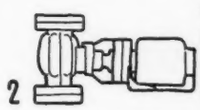
RADIANT HEATING SYSTEMS FOR HOUSES—17: Controls

By William J. McGuinness, Professor of Architecture, Pratt Institute

Fig. 17 Control Devices *(See Fig. 18 for combined uses)*



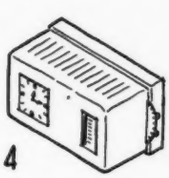
1. Aquastats
High and low limit immersion aquastats in the boiler water turn fire on and off to maintain water temperature high enough to generate domestic hot water, and for use in radiant coils after mixing



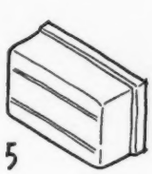
2. Circulating Pump
Intermittent use with fixed water temperature or continuous use with varying water temperature are two usual schemes. In both cases, room thermostats or room controls generally stop circulator when room temperature is adequate



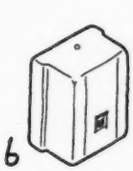
3. Thermostat
For intermittent circulator use, thermostat turns circulator on when heat is called for, and off when satisfied. This type with no automatic night set-back is often used when lower temperature is inadvisable at night, as in concrete floor slabs. Heavy slabs recover slowly from low temperatures



4. Clock Thermostat
The temperature of ceiling panels can be lowered at night (morning recovery is fast). For this purpose, clock thermostat can be used. For use in connection with outside anticipator, it can be electronic



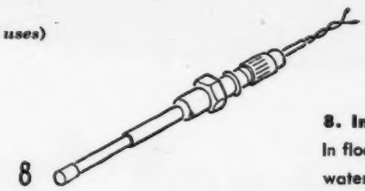
5. Averaging Thermostat
In large houses, it is sometimes advisable to average the temperature at which thermostat operates. This one acts in tandem with main thermostat and the average temperature of the two is used. In ceiling systems where panels cool off unevenly, this is a good equalizing device



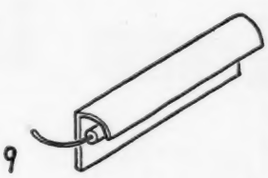
6. Outdoor Anticipator
This device is part of an electronic system. Together with thermostat and (in floor systems) immersion bulb in return water, it operates circulator. This anticipates cooling off of house by sensing a drop in outdoor temperature before inside thermostat does. It is placed on a north wall



7. Cycler
It is evident that with multiple controls, fire and circulator would be turning on and off at short intervals. Cycler assures periods of operation not less than three or four minutes



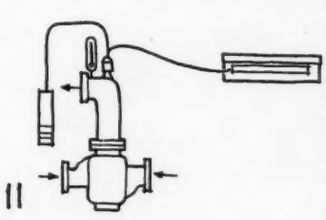
8. Immersion Bulb
In floor slab systems, this is set into return water to sense any drop in temperature. It operates together with outdoor anticipator to turn on circulator when needed. The outdoor anticipator varies control point of immersion bulb



9. Outdoor Bulb
Before inside devices can observe change in outside temperature, outdoor bulb operates. When outdoor temperature drops, a contracting liquid opens valve at boiler water supply, increasing temperature of mixed water. With outside rise, reverse occurs. It is placed on a north wall



10. Indoor Bulb
This is operated by the room control. When room temperature exceeds setting of room control, it warms indoor bulb electrically. Indoor bulb then delivers an expanding liquid to blending valve. This tends to close boiler water opening in blending valve, reducing temperature of water delivered. If room temperature continues to rise, it shuts off circulator



11. Blending Valve
Continuous use of circulator demands varying water temperature. Increased temperatures of either indoor or outdoor bulb cause an expanding liquid to depress mechanically the valve which admits hot boiler water to mixture. This reduces temperature of water delivered to system. With decreasing bulb temperatures, hotter water is delivered

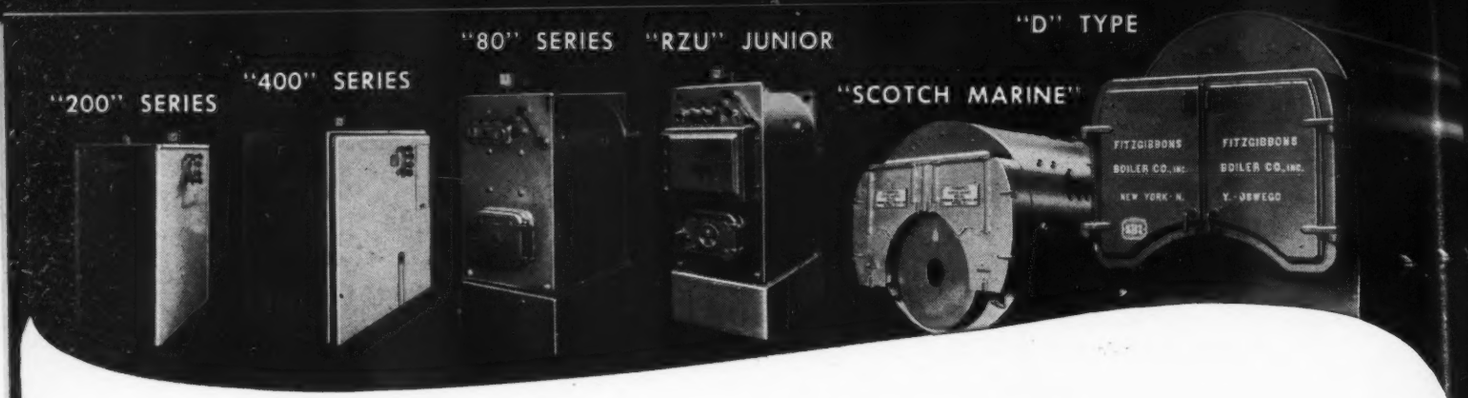


12. Room Control
About the size of a thermostat and with similar setting dial, this control operates as described in (10) (Indoor Bulb). It is upper limit control only, outdoor bulb taking care of operating system when temperatures drop. Room control senses radiant and convective changes as well as changing room temperature. Flush type is also available



13. The Sun
In solar houses with much glass on the south, sun is part of heating system and is more than adequate to heat house. Interior heating system, or at least the south zone, must turn off when sun is operating

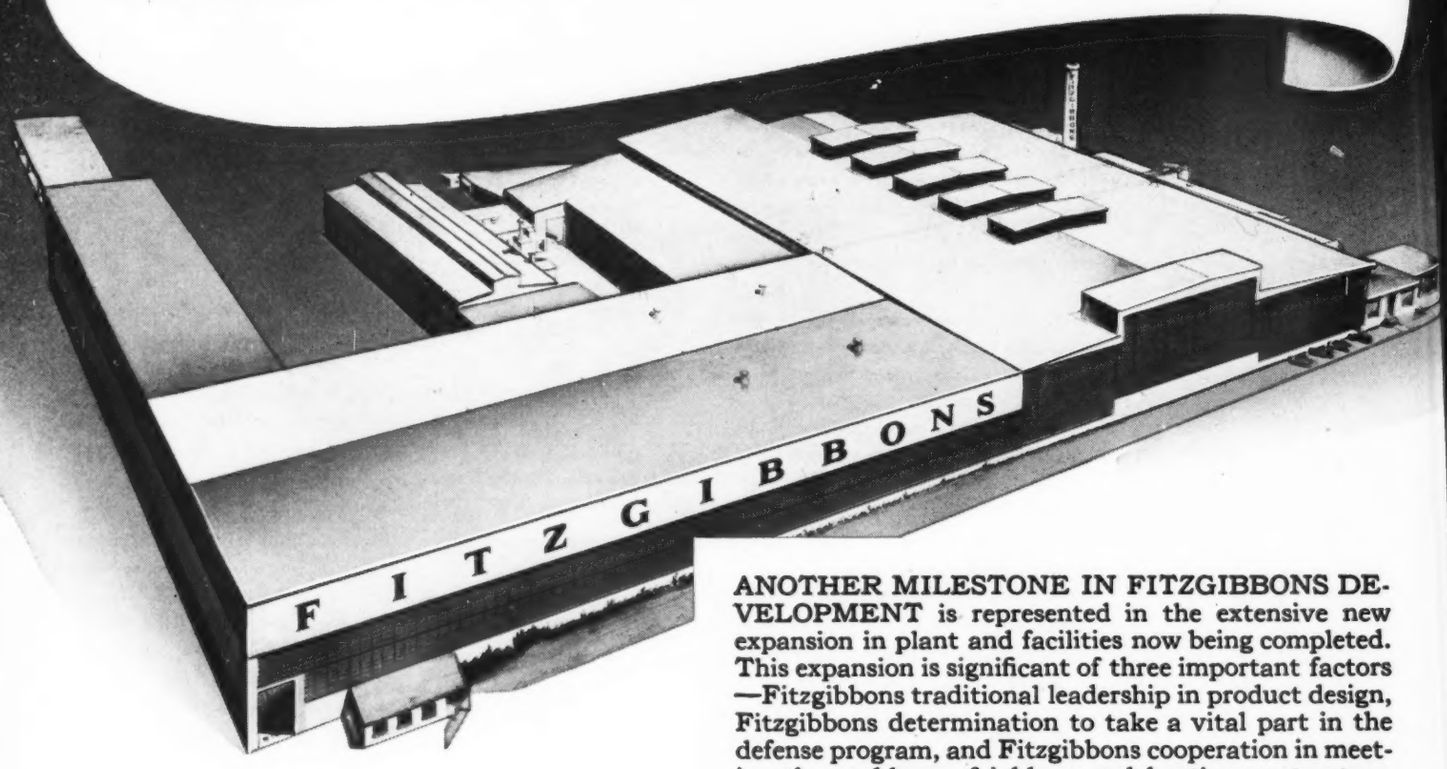
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RADIANT HEATING SYSTEMS FOR HOUSES—18: Controls

By William J. McGuinness, Professor of Architecture, Pratt Institute

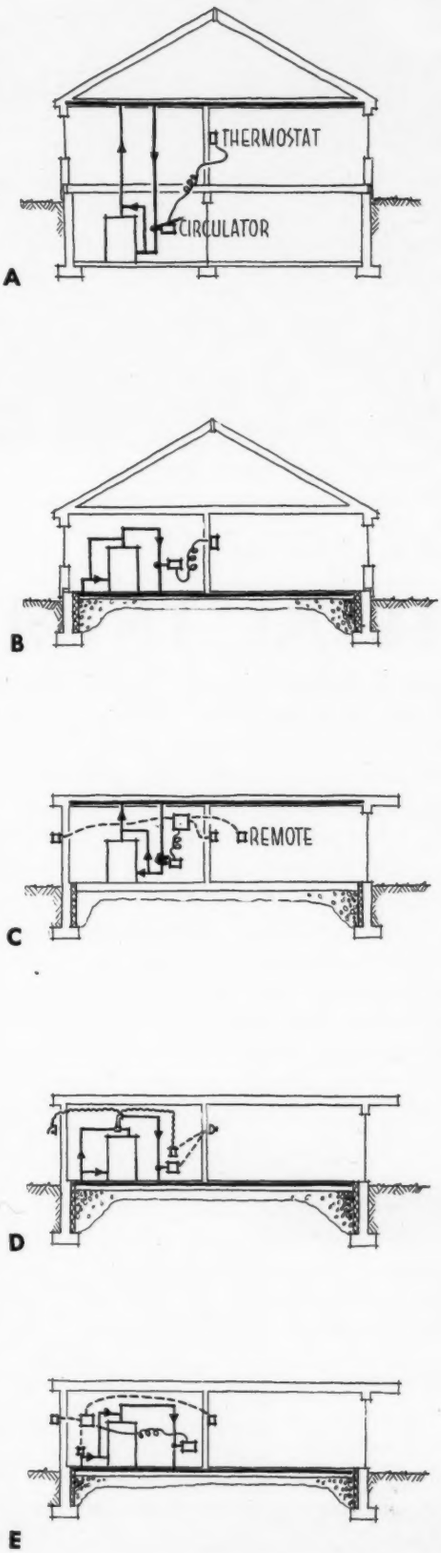
valve. Case 1 occurs when the outside temperature is zero (design temperature in many localities). In this case, the water is delivered at 130 deg, which could be the design temperature called for at this critical condition. At the milder outdoor temperature of 40 deg, the water is delivered at 100 deg, which is sufficient to make up the smaller heat losses which occur at this higher outdoor temperature.

Systems of Control

Two important influences in selecting a control system are the thermal lag of the panel and the amount of glass facing south, which makes solar heating a part of the heating system. For houses having little glass and employing ceiling coils, fixed proportions for water mixing are possible with intermittent use of the circulator, controlled by a simple electric thermostat. The mixing may be as shown in Fig. 16, A or B. Ceiling coils have a fast response. They heat quickly and cool quickly. This house is little influenced by changes in the intensity of sunshine. See Fig. 18 (A) for this arrangement. The use of floor coils in concrete in this kind of house would preclude the possibility of night set-back because of the thermal lag. Otherwise, the control could be the same. Outdoor control might be of some advantage in this case if budget permits.

In solar houses receiving much heat gain from glass on the south, the use of outdoor controls is recommended in all cases, and they are most necessary with the use of floor coils. It is necessary to anticipate the heat that will come from the sun and to shut off the system before this heat is received. Conversely, when the sun is about to set and outside temperature drops, it is well that the system start in response to an outside sensing device early enough to replace the effect of the sun when it sets. The additional importance of anticipating outside temperature changes by regulating the temperature of coils in concrete slabs is obvious because of their greater thermal lag.

Fig. 18 Recommended Control Systems For Radiant Panels



A. Conventional House, Ceiling Panel
Glass represents about 10 to 20 per cent of wall areas, orientation is unimportant. Circulator is operated intermittently by clock thermostat which can serve for night set-back. Outdoor controls not needed

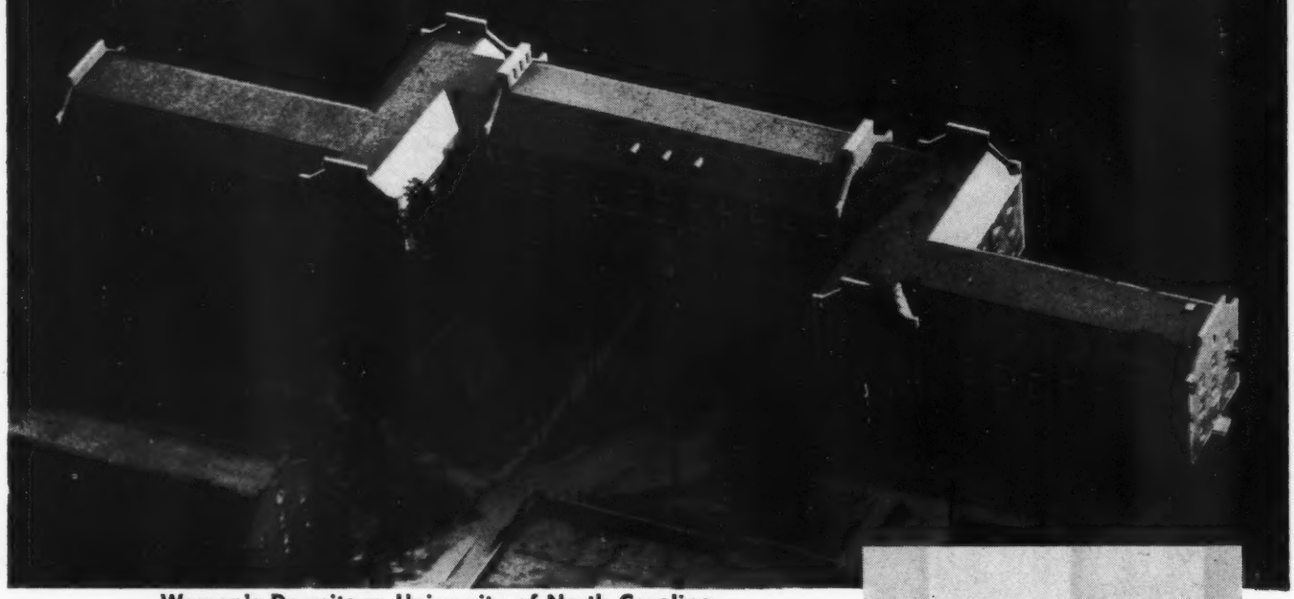
B. Conventional House, Floor Panel in Concrete Slab
Glass and orientation same as case "A" above. Plain thermostat without night set-back operates circulator intermittently. A radiant-and-convective type room control, Item 12, Fig. 17, is slightly preferable. Outdoor controls are of some advantage. If used, they could be as in cases "D" or "E" below. Night set-back not recommended because of slow return of slab temperature

C. Solar House, Glass on South, Ceiling Panel, Electronic Controls
Electronic relay amplifier receives signals of outdoor anticipator and of thermostat-set comprising clock thermostat and averaging thermostat remote from it. Through a cycler assuring at least 3 or 4 minutes operation, circulator is controlled by amplifier for intermittent operation

D. Solar House, Glass on South, Floor Panel in Convective Slabs, Blending Valve Control
Outdoor bulb and combination of room control operating indoor bulb regulate blending valve. Room control location is same as for thermostat. Temperature of water varies to compensate for varying temperatures. Circulator operation is continuous unless indoor bulb cannot cool slab quickly enough, in which case room control turns off circulator. No night set-back.
Note: System may be used for ceiling panel as in case "C" without change except night set-back may be added

E. Solar House, Glass on South, Floor Panel in Concrete Slab, Electronic Controls
Electronic relay amplifier receives signals of outdoor anticipator, a plain thermostat (no night set-back) and an immersion bulb in return water. If one indicates temperature drop, circulator is started. Immersion bulb helps prevent lag in floor slab systems. A cycler is used

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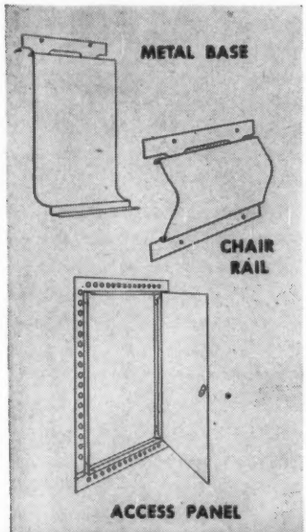


Women's Dormitory, University of North Carolina

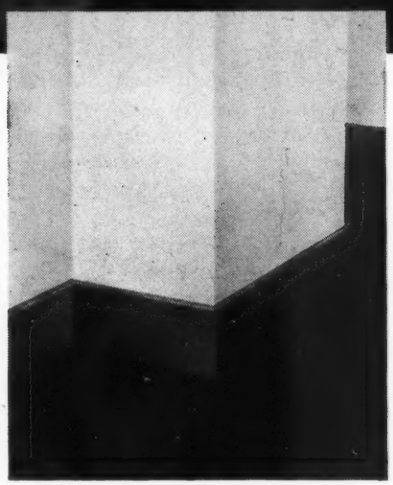
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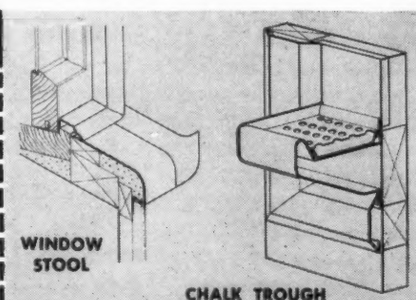
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RADIANT HEATING SYSTEMS FOR HOUSES—19: Controls

By William J. McGuinness, Professor of Architecture, Pratt Institute

Selecting A System

In Fig. 18, electronic and mechanical systems are shown for the control of radiant panels. In general, the electronic systems use a fixed water temperature adjustment with intermittent circulator operation, while the mechanical systems use a blending valve and continual circulator operation. Each has its particular merits. The electronic system is inexpensive and very sensitive. The system of continuous circulator operation has the advantage of adjusting closely to the actual heat loss from the house. By some it is thought that continuous operation is a distinct advantage in floor slab panels and in larger installations, both situtions where, because of great thermal capacity, the panels would not be flexible enough to follow quick changes in heat delivered to coils.

ZONING

Selection of Zones

In modern solar houses the first zone to pick is the no-sun zone. This is shown in Fig. 19 on the north side of the house. This zone receives no sun during the day, and at low outdoor temperatures the heating panels might operate all day. Under these same conditions and when the sun is shining, all south zones might be turned off. A further split could be between the sleeping and living wings. This is possible only when ceiling systems are used, permitting night set-back. Further zones might be suggested by remote, isolated wings or second stories. In these cases, the north sides of isolated wings or upper stories should still be separately zoned if the south receives much sun during the day.

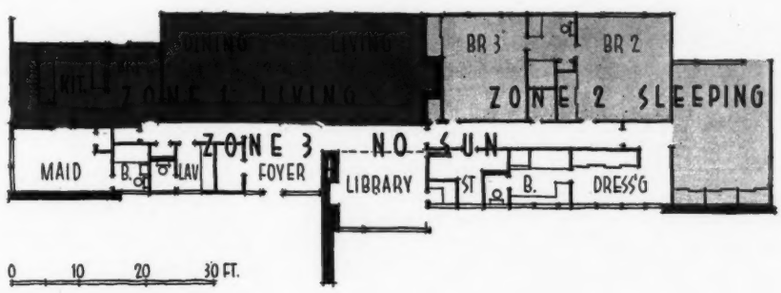
Piping For Zone Control

The piping shown in Figs. 11 and 15 (see Time-Saver Standards Sheet 11, October 1951, and Sheet 15, January 1952) for single zone systems would have to be modified for multi-zone operation. For instance, in a three-zone system such as shown in Fig. 19, a header would be needed to receive the mixed water. The three mains serving the zones would each start through a separate flow-control valve. The piping for each zone would run separately and return as a zone-return-main from each of the zones. A circulating pump would serve each individual zone-return-main before the return water was assembled in a master return header.

Controls for Zoning

A full set of controls is required for each zone. In the house shown in Fig. 19, three sets of controls are needed. A ceiling system is assumed. If the controls were electronic, they would comprise three each of: clock thermostat, averaging thermostat, outdoor anticipator, and electronic relay amplifier. If continuous operation were selected, the controls would comprise three each of: blending valve, outdoor bulb, indoor bulb, and room control. In either case, three pumps and three flow-control valves would be needed.

Fig. 19 Zoning Layout for Large Solar-Type House



Plan: Courtesy of Daniel Schwartzman, Architect

TIME-SAVER STANDARDS Architectural Engineering

"I find that my construction cost has

RUSCO Hot-Dipped Galvanized Prime Window Ena



TYPICAL VIEWS OF FURNACE BROOK ACRES HOMES, QUINCY, MASS.

Rusco Prime Windows with insulating sash are being used exclusively on the 100 fine Colonial and Ranch Style homes in Furnace Brook Acres. Purchasers will enjoy homes that are warmer in winter, cooler in summer — never have screens or storm windows to change.

A. J. Spinelle,
Builder and Trustee, says:

"As you know, I am using the Rusco Prime Window and Insulating Sash with Wood Surround exclusively in all my new ranch homes.

"I find that my construction cost has lowered a great deal and, in addition to that, your windows offer great sales appeal to prospective home owners. The Rusco Prime Window certainly enhances the appearance of my homes and the buyers are particularly pleased with the easy operation and convenience in washing the windows.

"I highly recommend this window for any type of residential construction and in many cases I am sure it would be ideal for industrial types of construction also."

st has lowered a great deal"

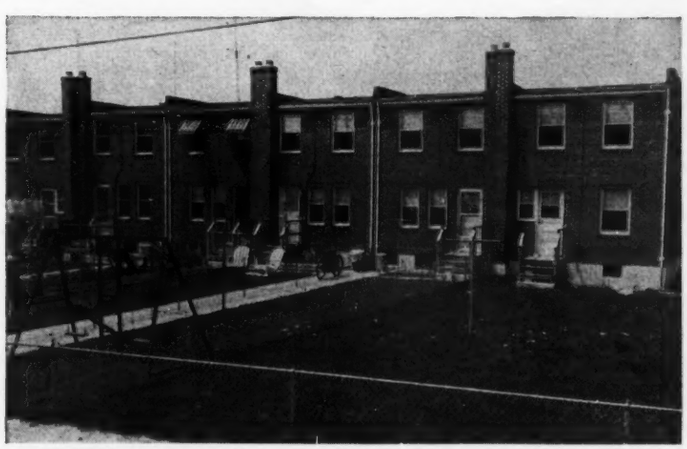
ow Enables You to Provide Quality at a Saving...

COMPLETE, PRE-ASSEMBLED UNIT MAKES SUBSTANTIAL SAVINGS IN INSTALLATION TIME, LABOR AND MAINTENANCE

All across the nation, architects and builders are finding the Rusco Prime Window an important factor in curbing rising construction costs.

A complete unit—*finished-painted, fully-assembled with glass, screen, built-in felt weatherstripping, insulating sash (optional) and wood or metal casing*—the Rusco Prime Window can be fully installed in 5 minutes or less on many types of construction!

But construction savings and speed are only *part* of the story. Minimum maintenance, exclusive selling plusses such as year 'round, rainproof, draft-free, filtered-screen ventilation, and many other advantages, make the Rusco Prime Window outstanding. For catalog of data and specifications, see the Rusco Prime Window distributor in your area or mail coupon below.



GEBHART HOUSING PROJECT, BALTIMORE, MD. A total of 887 Rusco Prime Windows was used in the 87 units of this sizable building development.

ARCHITECT: Hal A. Miller & Associates
BUILDER: Alan Construction Company



GLASS AND SCREEN INSERTS EASILY REMOVED FROM INSIDE FOR CONVENIENCE IN CLEANING. The Rusco removable sash feature has tremendous appeal as a convenience and safety feature.

RUSCO
HOT-DIPPED GALVANIZED
PRIME WINDOW
(VERTICAL SLIDE)

a product of
THE F. C. RUSSELL COMPANY
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World's largest manufacturer of all-metal combination windows

THE F. C. RUSSELL COMPANY
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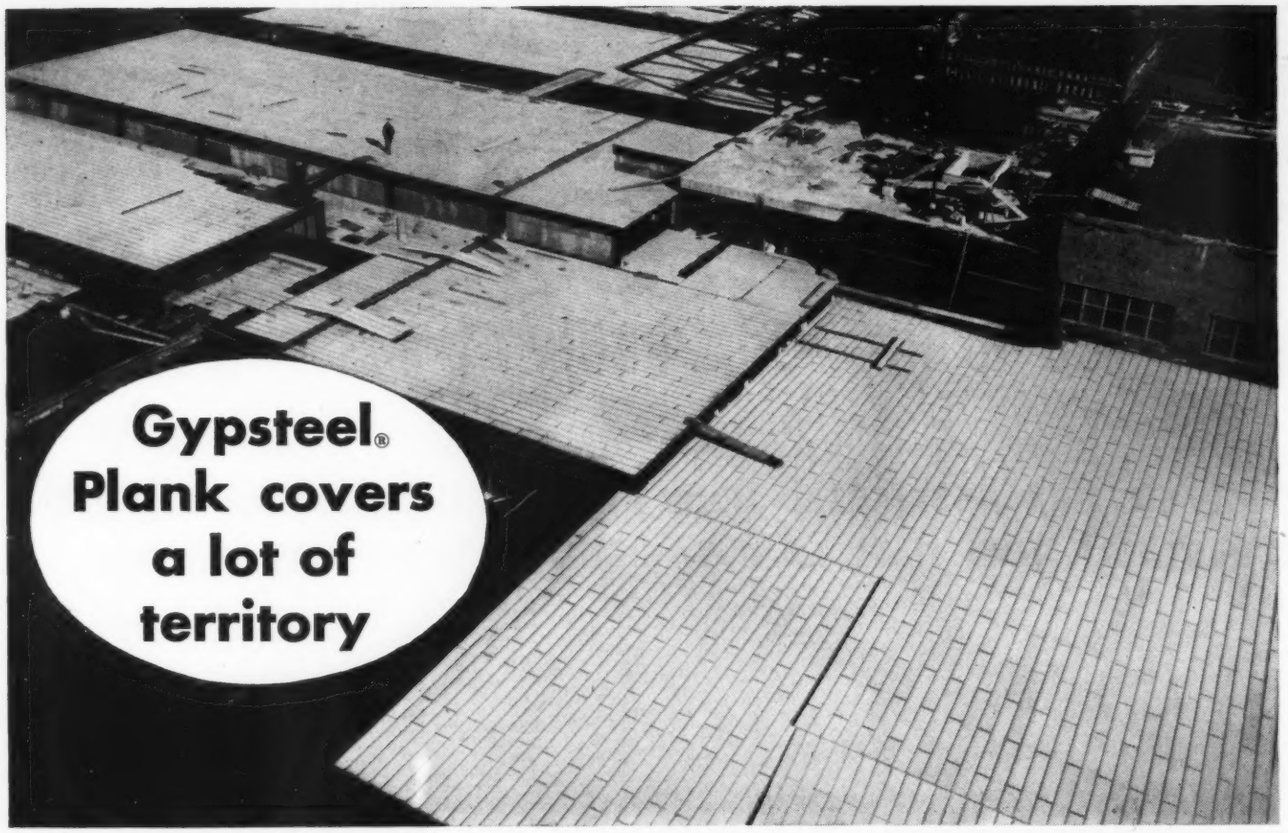
Gentlemen: Please send me catalog of informative data and specifications on Rusco Prime Windows.

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City ..... *Zone* ..... *State* .....



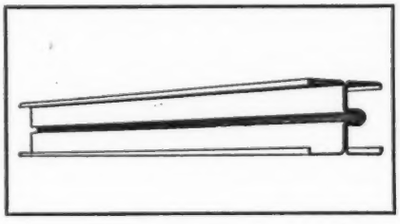
The Anheuser-Busch Brewery, Newark, N.J.—HARLEY, ELLINGTON and DAY, INC., Architects • GEORGE A. FULLER CO., General Contractor

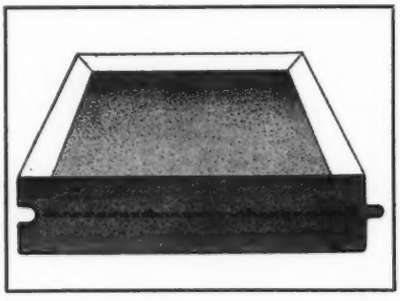
Any way you look at it, CERTAIN-TEED's Gypsteel Plank makes an ideal roof deck. It is fireproof, light in weight (only 12 lb. per sq. ft.), strong (safe load, 75 lb. per sq. ft.; safety factor of 4) and has a high insulation value (2 in. equals 10 in. of cement).

Gypsteel Plank is a simplified form of precast construction. It requires no form work, mixing or pouring. It is tongued and grooved, and handles like lumber—easily sawed, cut, bored, resulting in minimum construction and labor costs.

Gypsteel Plank is permanent—rot-, vermin- and termite-proof. And it makes an attractive ceiling, one that is easily painted.

Size of Gypsteel Plank, 2″ x 15″ x 10′.





Gypsteel's tough! 16 g. galvanized steel wire reinforces the highly compressed gypsum slab. Its frame is electrically welded steel, .032″ thick.

• • •

The tongued and grooved Gypsteel frames form a sinewy steel I-beam of calculable strength and flexibility. Joints can be safely broken between supports.

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ASPHALT ROOFING • SHINGLES • SIDINGS

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ACOUSTICAL TILE INSULATION FIBERBOARD

Better radiant heating systems, measurable savings with Bundyweld Tubing

You want better radiant heating systems. You want them at every saving in fabrication cost and installation time you can possibly get. Then choose Bundyweld Tubing and realize both goals. See for yourself:



It is the conviction of Bundy Tubing Company. that radiant heating grids rightly belong in ceilings. Among other advantages, *ceiling* installations provide proper floor warmth without danger of discomfort, respond far more quickly to thermostat demand, give a far *higher* percentage of radiant heat.



Performance: Bundyweld is leakproof. It has great bursting strength. It conducts heat quickly. Bundyweld is scale-free and clean, with uniform I.D. and O.D. for trouble-free, even water flow.



Fabrication and Installation: Standard 20′ lengths of Bundyweld (one end expanded when specified) are trucked and handled easily, yet minimize number of joints in completed systems. Ductile Bundyweld bends easily to short radii without danger of structural collapse. Two or more formed, lightweight grids can be quickly joined, easily positioned. No crushing, denting, sagging; no scrapped tubing.



Construction: Bundyweld is the *only* tubing double-walled from a single strip, with inside and outside beveled edges. It's copper-brazed through 360° of wall contact, copper-coated inside and out. It can also be furnished with a lead-tin coating. For free brochure, write Radiant Heating Division, ***Bundy Tubing Company, Detroit 14, Michigan.***

Bundyweld® Tubing

DOUBLE-WALLED FROM A SINGLE STRIP

WHY BUNDYWELD IS BETTER TUBING



Bundyweld starts as a single strip of copper-coated steel. Then it's . . . continuously rolled twice around laterally into a tube of uniform thickness, and passed through a furnace. Copper coating fuses with steel. Result . . . Bundyweld steel tubing, double-walled, and brazed through 360° of wall contact.



← **NOTE** the exclusive patented Bundyweld beveled edges, which afford a smoother joint, absence of bead and less chance for any leakage.

INTRODUCING A PANELBOARD WITH A PLASTISOL HEART

Now—for the first time—a new insulating material, Plastisol, is used as the heart of a complete line of panelboards.

The interior of Trumbull's new NLTQ Panelboard is formed with bus bars *molded in* a plastisol base. This plastisol material has many advantages over all other types of insulation: highly resistant to either acid or alkali; no harmful aging; no shrinking or embrittlement; highly resistant to tracking and carbonizing; will withstand temperatures of 212 F without harm; has very high thermal conductivity (even at minus 30 F) and is an excellent radiator of heat. Tests show copper bus bars encased in plastisol run 10% cooler than in open air!

Trumbull's plastisol base is Underwriters' Laboratories, Inc. approved, and is completely endorsed by The Electrical Council.

The NLTQ Panelboard is furnished with lug-in mains or circuit breaker mains in capacities up to 225 ampere bus bars, in a range of 4 to 42 circuits. 3-wire, 120/240 volt A-C or 4-wire, 3-phase, 120/208 volt A-C, solid neutral. Provision can be made for increasing any bus capacity up to 210 amperes; also sub-feed, meter loop, through feed and split bus. ***Write for Bulletin TEB-14.***



NEW INTERIOR SAVES INSTALLATION TIME, PROVIDES SEQUENCE PHASING

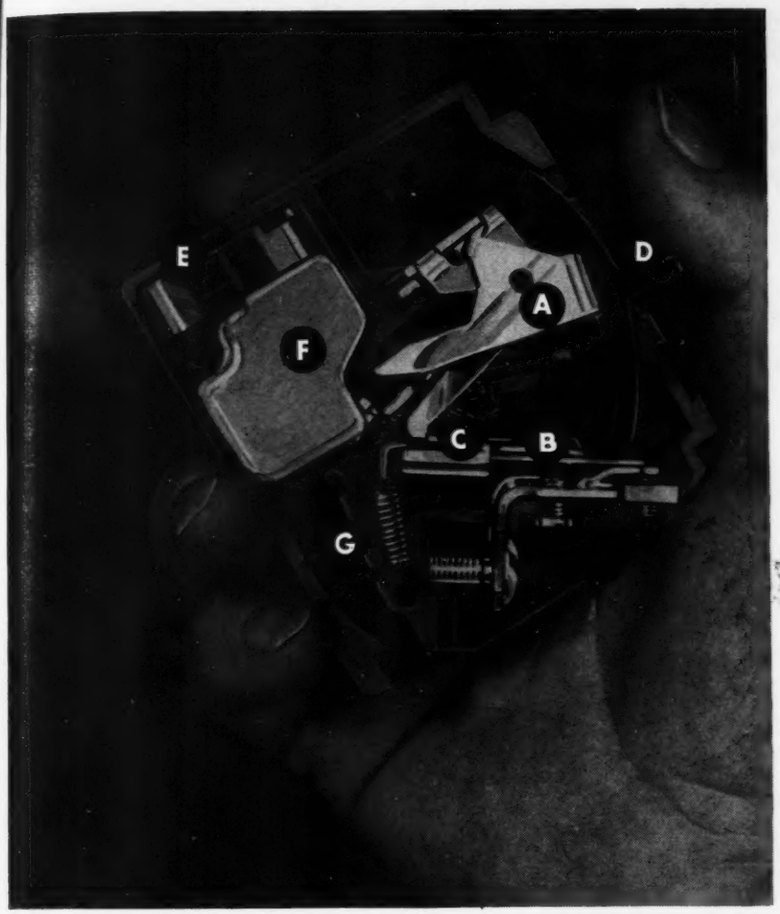
The interior is compact, allowing ample room for wiring. As shown in the picture at the right, it is mounted in the box by means of four posts and compression springs; this speeds installation, permits removal for ease in wiring.

The bus bar and stab assembly is silver-plated copper for positive conductivity. Line terminals are heavy-duty, silver-plated, solderless.

Another unique feature of this interior is that by ingenious design, sequence phasing is built into the Panelboard. Each adjacent Breaker is on an alternate phase, which assures balanced loads and circuits.

Phases are permanently identified by molded-in letters.

You've never before seen a CIRCUIT BREAKER like this in a panelboard



QUICK-MAKE, QUICK-BREAK Trumbull's new TQL interrupts with a *snap*. No matter how sloppily the handle is operated, the movable contact arm (A) opens or closes *fast* and *clean*... reduces burning or arcing of contacts.

DOUBLE PROTECTION *thermal and magnetic* Trumbull's new TQL trips automatically by (B) time-delay thermal action of excessive overload (but not by harmless temporary overloads) or by (C) instantaneous magnetic action for short circuit.

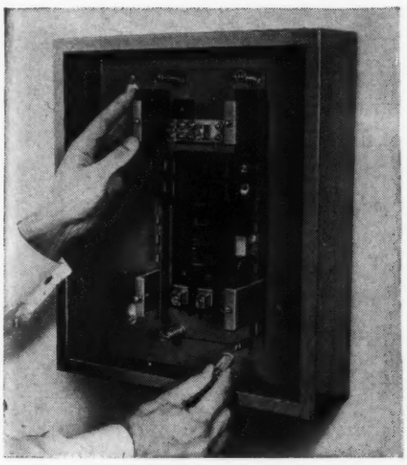
TRIP-INDICATING When an overload or short circuit causes the Breaker to trip, the handle (D) moves to mid-position between OFF and ON where it is easily observed from a distance.

TRIP-FREE Trumbull's new TQL Breaker automatically trips independently of the handle—it trips for a fault condition even though handle is held in ON position.

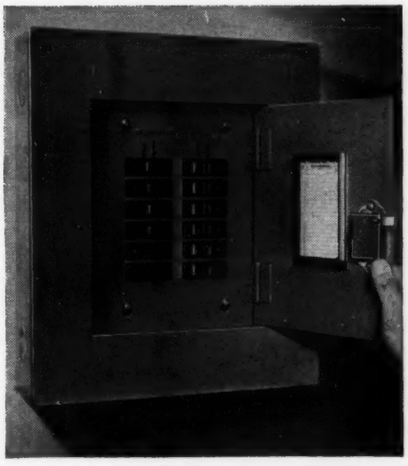
OTHER FEATURES Pressure-type silver-plated copper contacts (E)... arc chute (F) made of special refractory material . . . exhaust chamber (G) to cool gases . . . completely tamper-proof . . . Underwriters' Laboratories Inc. approved.

INTERCHANGEABLE All ampere ratings are physically interchangeable.

RATINGS 15, 20, 30, 40, 50 amp; 120 volt A-C, single pole, single throw. Interrupting: 5000 amp. 120 volt A-C, 120/240 volt A-C. Two-pole operation, independent trip, possible with handle extensions.



COMPRESSION SPRINGS save nuisance of nuts and washers, allow fronts to be lined up regardless of uneven box installation.



ONE-PIECE WELDED ASSEMBLY of front and barrier saves installation time. Front is attached to interior by means of four screws.



COMPLETELY PROTECTED With door locked, screws are concealed, front cannot be removed. Note attractive appearance; invisible hinges.

TRUMBULL (T) ELECTRIC

THE TRUMBULL ELECTRIC MANUFACTURING COMPANY

Department of General Electric Company

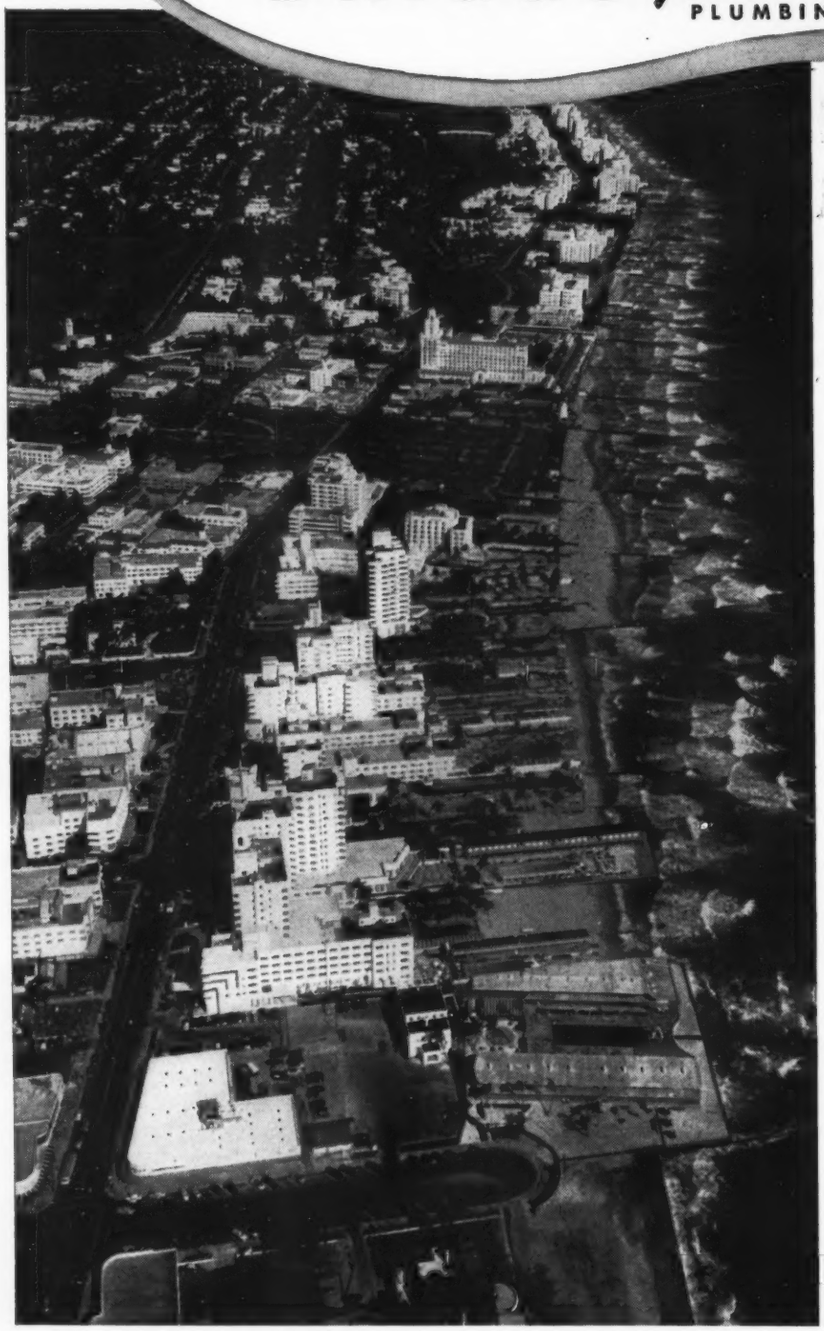
PLAINVILLE, CONN.

168 Miami Beach Hotels—

WHERE ONLY THE BEST IS SPECIFIED—CHOOSE

BRIGGS *Beautyware*

PLUMBING FIXTURES



NEW PROOF OF BRIGGS POPULARITY AND RELIABILITY!

Owners of the luxurious hotels which line the ocean front along the glittering Gold Coast of Miami Beach must furnish their bathrooms with care and discrimination. That's why, since 1938, 168 of them have chosen Briggs Beautyware plumbing fixtures—*mostly in color!* Briggs gives them charm and beauty which delight their paying guests! Briggs assures durability and fade-proof, stain-proof finish, impervious to the damaging effect of tropical weather conditions. And, best of all, Briggs Beautyware gives them famous decorator colors in the height of style and good taste at *only a very little more than white!** Talk about public acceptance! One Miami plumbing contractor has recently installed 3300 units *in color* in apartments, projects, private homes, hotels and motels in greater Miami. This localized example of Briggs popularity is reflected in similar stories from practically every state in the nation!

** Briggs color is only slightly more than white when purchased in complete sets.*

BRIGGS MANUFACTURING COMPANY, 3001 MILLER AVENUE, DETROIT 11, MICHIGAN



247,500 SQ. FEET AREA

FOR CARRIER

Structural Design by Lockwood Greene & Co., New York, Architects & Engineers

Heating Designed and Installed by Carrier Corporation.

The engineers who designed the new Carrier Plant at Syracuse, New York, didn't just call up somebody and say "send us some steam traps." For they are the men who know air conditioning and heating, and the savings or losses that may be built into a plant when selecting the steam accessories.

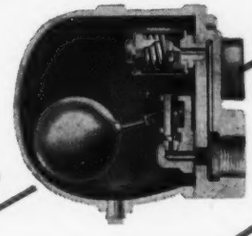
So this Plant is ALL-SARCO—with the well known Sarco float-thermostatic steam traps for heating coils and Sarco bucket traps for the unit heaters.

And for permanent insurance against failures due to foreign material in their steam and water lines, more than 100 Sarco strainers ranging in sizes from ¾" to 3" are inserted at vital points all over the plant.

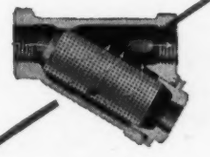
Sarco is not interested in just "selling some more steam traps." Whether you are building new plants, additions, or modernizing old heating systems, you will find that the Sarco Representative near you is interested in finding the right combination of steam traps and temperature controls that will give maximum heating comfort for your workers at less fuel costs. A phone call will bring you his experience with no obligations.

...with no windows

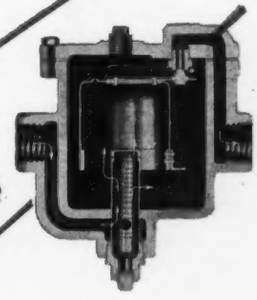
AND IT'S ALL-SARCO



FLOAT-THERMOSTATIC STEAM TRAP



PIPE LINE STRAINER



BUCKET STEAM TRAP

331

SARCO SAVES STEAM

SARCO COMPANY, INC.

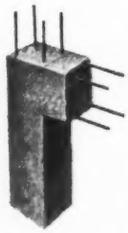
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SARCO CANADA, LTD., TORONTO 8, ONTARIO

IMPROVES PRODUCT QUALITY AND OUTPUT

How 4 Hospitals Met Material Shortages ...Saved Money Too!



In every part of the nation there's need for more and more hospitals today. And with typical western vigor California is doing much about it with an ambitious building program.

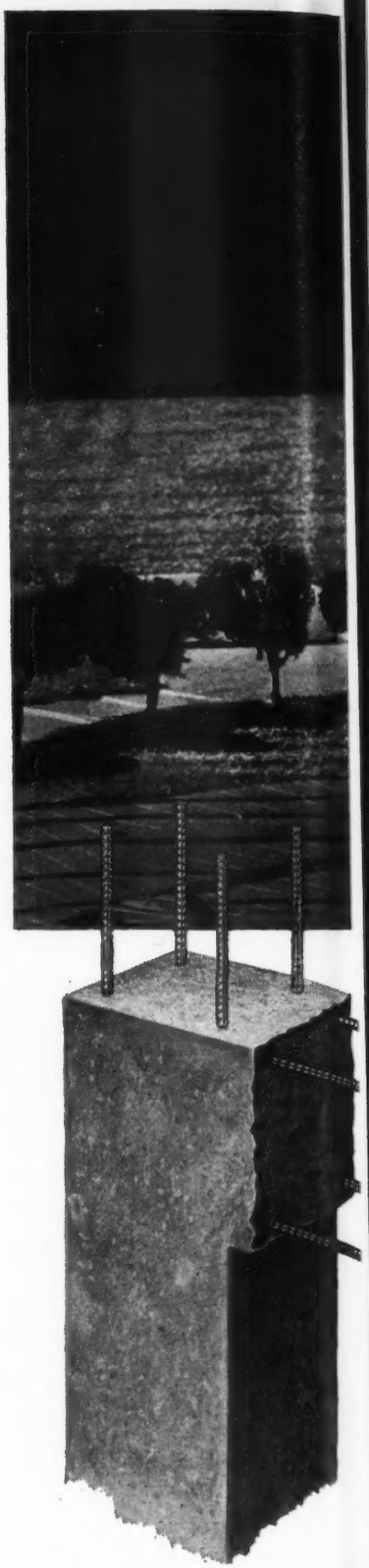
One of the problems facing Stone and Mulloy, architects for the structures pictured here, was availability of materials. To solve this problem reinforced concrete skeleton construction was selected. Ceco reinforcing bars were used on all four projects, with Ceco providing complete shop and field erection details. Concrete joist construction was chosen for the floor systems—and here, on two of the projects, Ceco met the need with Ceco Meyer Steelforms.

So four new hospitals are added to the California Skyline. And critical shortages are solved, for reinforced concrete construction saves steel.

Then too, there were further advantages in building the floor systems with the Steelform method: (1) savings in men because less time and labor were required, (2) savings in money because less concrete and lumber were needed, and (3) savings in material because here too, a minimum of steel is necessary.

To help you in design or construction problems a nationwide staff of competent engineers stands by to serve you. So call on Ceco—for in construction work CECO ENGINEERING makes the big difference.

Contractors for these four projects include: Parker, Steffens & Pearce—Williams & Burroughs, Inc.—Carl N. Swenson & Co.—Architects: Stone & Mulloy.



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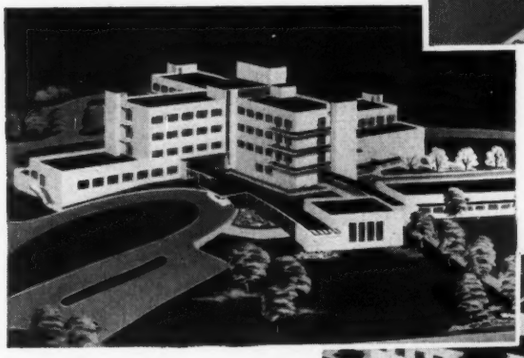
CECO STEEL®

In construction products **CECO ENGINEERING**

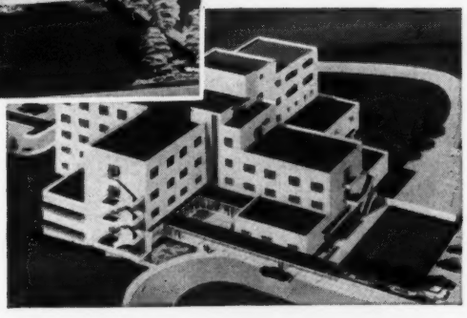


West Contra Costa Hospital
Ceco Reinforcing Bars

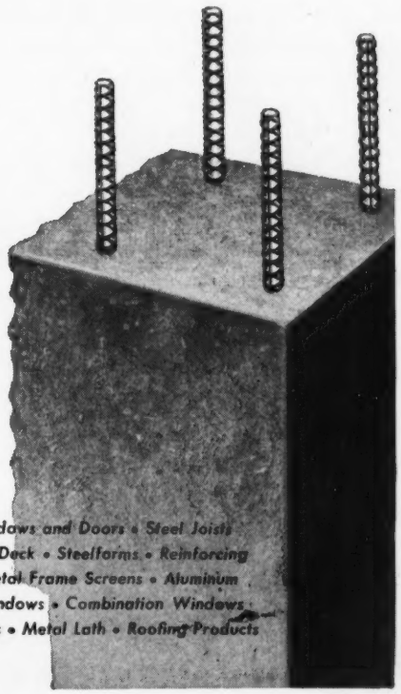
Sequoia Hospital
Ceco Meyer Steelforms
and Reinforcing Bars



Peninsula Hospital
Ceco Meyer Steelforms
and Reinforcing Bars



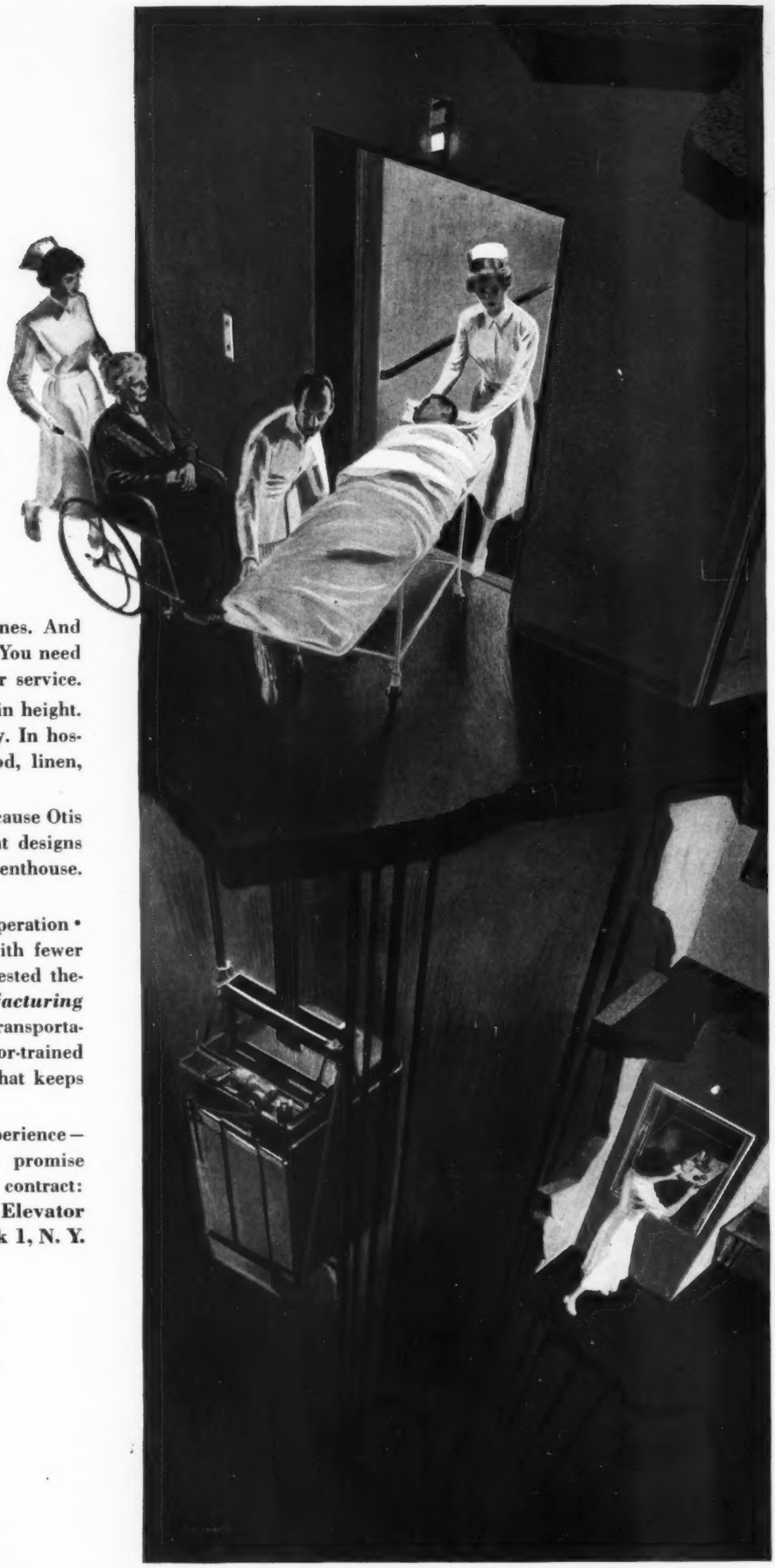
Eden Township Hospital
Ceco Reinforcing Bars



makes the big difference

Steel Windows and Doors • Steel Joists and Roof Deck • Steelforms • Reinforcing Steel • Metal Frame Screens • Aluminum Storm Windows • Combination Windows and Doors • Metal Lath • Roofing Products

We'll share your responsibility



. . . in hospitals, you have set routines. And emergencies. Human life is involved. You need always-available, hospital-safe elevator service.

We'll provide this service. We deal in height. Moving people and material vertically. In hospitals, it's patients, visitors, staff, food, linen, sterile supplies and freight.

We can accept this responsibility because Otis is the only elevator manufacturer that designs and builds everything from pit to penthouse. Based on:

Research that advances electronic operation • ***Planning*** that gives better service with fewer elevators • ***Engineering*** that turns tested theory into better elevatoring • ***Manufacturing*** that concentrates entirely on vertical transportation • ***Construction*** that brings elevator-trained men to your installation • ***Service*** that keeps elevators available and hospital-safe.

This background of elevator experience—*unequalled anywhere*—delivers the promise that forms the basis of every Otis contract: The world's finest elevatoring. **Otis Elevator Company, 260 11th Ave., New York 1, N. Y.**

Better elevatoring is the business of

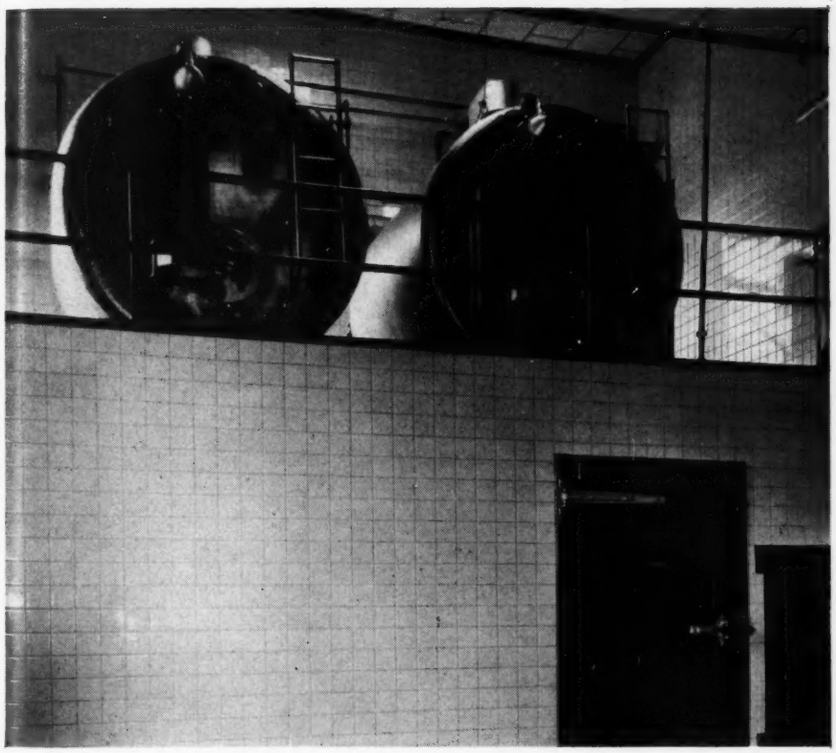
Otis

Passenger Elevators • *Freight Elevators* • *Electric Dumbwaiters* • *Escalators* • *Maintenance* • *Modernization*

New Colors...soft-toned and function fitting

now yours in real clay *Suntile*

WHAT THESE COLORS MEAN TO INDUSTRIAL PRODUCTION



Production has increased both in quantity and in quality!

This is the usual report you'd get if you visited an industrial plant where functionally correct colors have been selected for walls and floors.

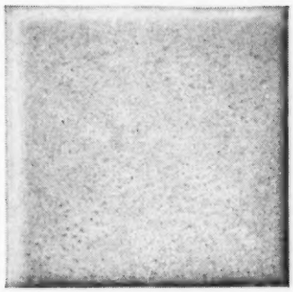
Color fitted to the function of industrial interiors helps reduce accidents, aids lighting and saves eyestrain, increases employee morale and efficiency, decreases absenteeism. In short, the *right* color can be a valuable aid to any production process.

Now, with Suntile, you have colors that have been scientifically developed to aid the design and purpose of building interiors...of manufacturing and processing plants, of schools, hospitals, and other institutions, of offices and commercial buildings.

You get more than functionally correct colors with real clay Suntile, however. You also get low maintenance and upkeep, permanence, resistance to fire, economy and ease of cleaning.

Our new color booklet, "Suntile Functional Color Recommendations," describes the Suntile functional color line, tells you how to use color to greatest advantage. See your local Authorized Suntile Dealer, or write our Dept. AR-2 for a copy. **The Cambridge Tile Mfg. Co., P.O. Box 71, Cincinnati 15, Ohio.**

Buff Hauteville 724



Suntile

BUFF HAUTEVILLE 724

A practical color of widespread use

Buff always has been a favorite ceramic tile color. Suntile now has added an attractive subdued mottle and extremely hard surface which give Buff added advantages. Buff Hauteville is one of the best colors where light may be on the dim side or where bright, clean environment is needed. It probably should not be used where critical seeing tasks are performed. However, in large wall areas, corridors, stairwells, locker rooms, boiler rooms, lavatories and gymnasiums and in manufacturing areas of foundries, machine shops, food and chemical plants, Buff Hauteville is ideal. The mottled finish resists soiling and does not require "mirror-clean" maintenance. This is but one of the new Suntile line of functional colors developed by Faber Birren, outstanding color authority, and The Cambridge Tile Mfg. Co.

WEST COAST OFFICES

The Cambridge Tile Mfg. Co. 470 Alabama Street San Francisco 10, California	The Cambridge Tile Mfg. Co. 1335 S. La Brea Los Angeles 19, California



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IT'S DAY-BRITE IN THE OFFICES



IT'S DAY-BRITE IN THE CORRIDORS



IT'S DAY-BRITE IN CONFERENCE ROOMS

"DECIDEDLY BETTER"

DAY-BRITE®

Lighting Fixtures

Day-Brite Lighting, Inc., 5465 Bulwer Ave., St. Louis 7, Missouri
In Canada: Amalgamated Electric Corp., Ltd., Toronto 6, Ontario
Distributed only by leading electrical wholesalers

The 3M COMPANY *plans...*

If you notice a generous amount of pride when Minnesota Mining and Manufacturing Co. folks talk about their sparkling new St. Paul office building, it's justifiable pride. The 3M people refer to it fondly as the "workshop"—and you'd have to go a long way to find a better example of farsighted planning for pleasant, comfortable working conditions.

Architecturally, it's a beauty. Pooling their talents, Mr. Pesek and his 3M staff worked with Tom Ellerbe and his associates to achieve fresh, crisp lines and simple, dramatic form.

For example, the east and west walls are windowless. The bold, un-

...and builds an enlightened "Workshop"

broken planes of rough-cut Bedford stone shut out the glaring morning and afternoon sun. Inside the offices, all desks are oriented so that no employee faces the outside light.

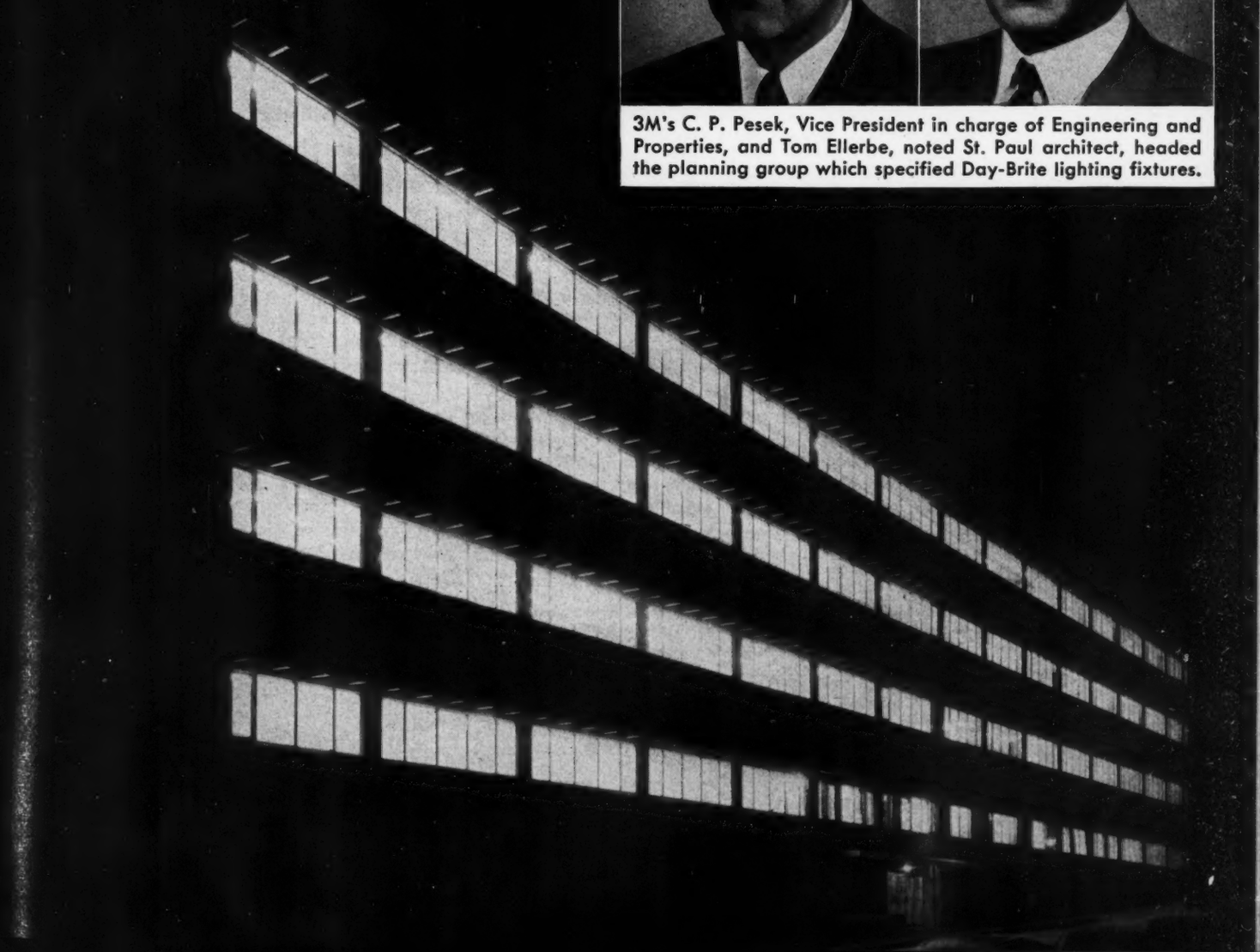
Nowhere is the planning for employee comfort and efficiency more evident than in the building's lighting system. More than 3 miles of Day-Brite troffers furnish the lighting in critical seeing areas and in the corridors. The large offices, finished in soft, restful colors, are bathed in 50 footcandles of illumination.

The choice of Day-Brite fixtures was characteristic of the planning group's insistence on finest quality building products. They set up extremely rigid requirements for their lighting installation; they went to the nation's leading producer of fluorescent fixtures to get the results they expected.

The consistent quality of the Day-Brite line has earned the respect and confidence of thousands of the country's best architects. Chances are, there's a job on your board right now that calls for a top-performing lighting installation. May we prove to you that a Day-Brite specification will fill the bill better than any other? We'll send you all the facts if you'll write and ask for them. 21

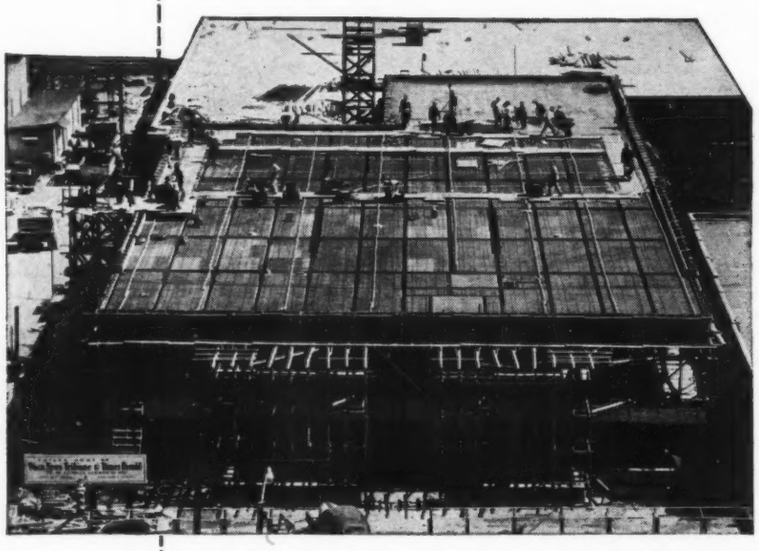


3M's C. P. Pesek, Vice President in charge of Engineering and Properties, and Tom Ellerbe, noted St. Paul architect, headed the planning group which specified Day-Brite lighting fixtures.



Texas contractor finds that

DURAPLASTIC* results in improved surface appearance...at no extra cost



Looks better . . . and it's more durable—All concrete in the NEWS-TRIBUNE and TIMES-HERALD building, Waco, Texas, was made with Duraplastic air-entraining cement.

THERE'S A GOOD REASON why the Moore Construction Company, Austin, Texas, used Atlas Duraplastic air-entraining portland cement for this building. R. B. Moore, Jr., reports that with Duraplastic they get "a more homogeneous, honeycomb-free, plastic and workable concrete with less water bleeding."

That's why so many contractors are specifying Duraplastic cement today. Another reason is *durability*. Duraplastic-made concrete is fortified against the effect of freezing-thawing weather because air-entrainment minimizes bleeding and segregation.

YET DURAPLASTIC COSTS NO MORE

It sells at the same price as regular cement and requires no unusual changes in procedure. Complies with ASTM and Federal Specifications. For descriptive booklet, write Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 100 Park Avenue, New York 17, N. Y.

OFFICES: *Albany, Birmingham, Boston, Chicago, Dayton, Kansas City, Minneapolis, New York, Philadelphia, Pittsburgh, St. Louis, Waco.*

**"Duraplastic" is the registered trade mark of the air-entraining portland cement manufactured by Universal Atlas Cement Company*

ATLAS® **DURAPLASTIC**

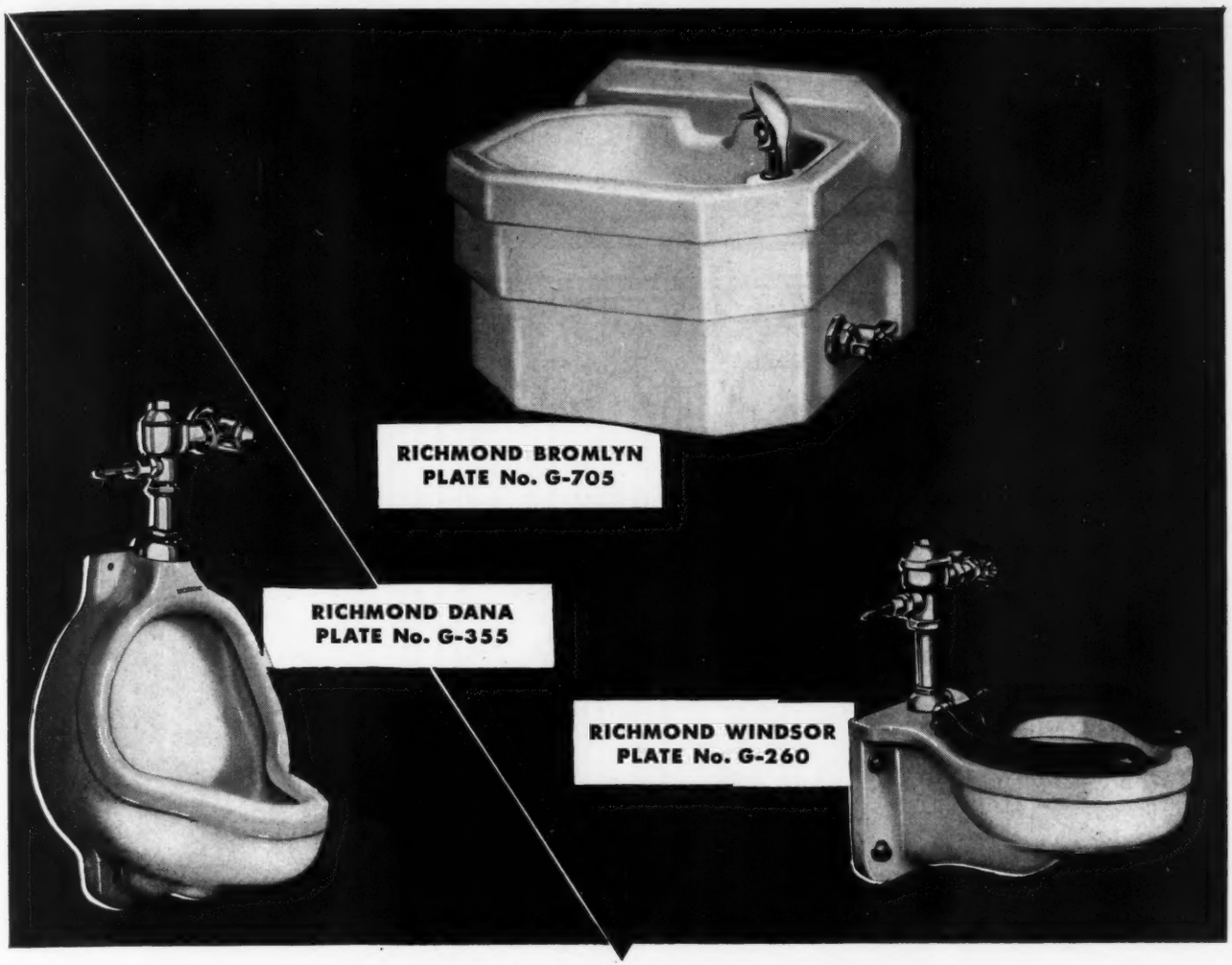
AIR-ENTRAINING PORTLAND CEMENT



AR-D-136

Makes Better Concrete at No Extra Cost

"THE THEATRE GUILD ON THE AIR"—*Sponsored by U. S. Steel Subsidiaries—Sunday Evenings—NBC Network*



for today's modern industrial and institutional buildings...

3 new RICHMOND plumbing fixtures

These latest additions to Richmond's fine plumbing line are designed for maximum sanitation, long wear and low maintenance . . . finished in Richmond "whiter white" for attractive appearance. Such features make them ideally suited for rest rooms and recreation areas in today's schools and hospitals as well as in plants and offices. For any installation, Richmond can furnish plumbing fixtures to fit your requirements in vitreous china and enamel cast iron, acid-resisting or regular enamel, in any of Richmond's modern, lustrous colors.

Richmond Bromlyn—vitreous china wall-hung drinking fountain with shielded anti-squirt bubbler and lever handle. Automatic pressure regulator with flow-control. Waste strainer and 1¼" deep-seal trap to wall with cleanout.

Richmond Dana—vitreous china syphon jet urinal with flush rim, 1¼" OD top inlet, 2" FIP outlet. Acid and stain resistant . . . wall hung . . . for thorough sanitation.

Richmond Windsor—wall-hung syphon jet, elongated closet in acid and stain-resistant vitreous china with 1½" top inlet. Available with back inlet-G-263.

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Please send me additional information on Richmond fine plumbing fixtures. No obligation, of course.

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We are ☐ plumbing wholesalers ☐ plumbing contractors ☐ building contractors.



". . . and for the temperature control, we'll insist on Honeywell"

Sure looks like cartoonist Tom Henderson's couple are rushing things. But "newly marrieds" are often like that!

It's hard to tell how their home will look, but it's a certainty it will be blissfully comfortable for, after consulting their architect, they wisely decided to insist on Honeywell controls. Both architects and home owners know from past experience that the way to get *better* temperature control is to use Honeywell.

If *you* have a control problem, Honeywell can help you provide the proper thermal environment for any client – anywhere – in any kind of structure.

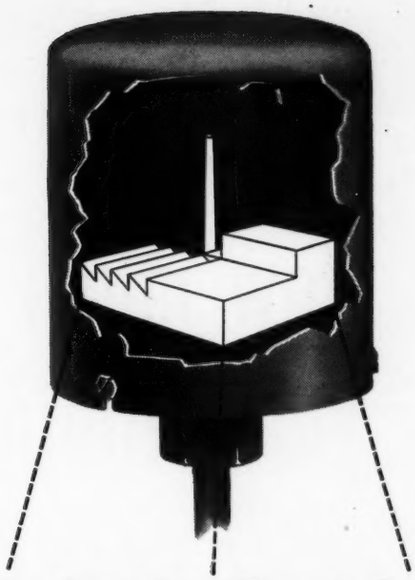
A large staff of expert control engineers – in 91 different Honeywell offices across the nation – specialize in doing just that. Also – there's a lot of literature that's yours for the asking – on the automatic control of heating, ventilating and air conditioning in any type of building.

So why not talk to Honeywell? Why not write to Honeywell about your control problem? And why not do it *now?*

Honeywell controls are available for all buildings – large, small, commercial or residential. See the facing page which gives interesting facts about one of these fine Honeywell controls.

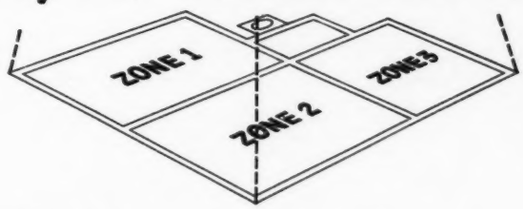
H HONEYWELL

For help with any control problem, talk to Honeywell



. . . and for factories, offices and apartments

Specify Honeywell Weatherstat Zone Control



Provides greater comfort . . . saves on fuel!

When you specify Weatherstat Zone Control for commercial buildings, you actually *increase* the efficiency of that building's automatic heating system. Weatherstat – the only outside control system of its type – achieves its remarkable accuracy by metering heat not only in relation to outside temperatures, but to *wind and sun conditions as well!*

Here's how Weatherstat Zone Control works. Your building is divided into zones according to *exposure, occupancy* and *construction.* Each zone has its own Weatherstat – mounted out-of-doors. These Weatherstats call for heat in direct relation to *wind, temperature, solar radiation* and *to the heating requirements of the different zones.* This means constant, comfortable inside temperatures, *regardless of weather!*

Weatherstat Zone Control prevents wasteful overheating, too – which makes great savings of fuel possible.

This finer, more accurate Weatherstat system *costs no more* than ordinary control systems. Usually one control takes care of an entire side of a building.

These are just a few of the facts to show the greater comfort and potential fuel savings this system offers. Get the complete story on Honeywell Weatherstat Zone Control. Call your local Honeywell office or mail the coupon below, today.

MINNEAPOLIS **Honeywell** H HONEYWELL

First in Controls

. . . and for help with the temperature control, we'll talk to (your firm name)

FREE! Personalized cartoon. For your 8½" x 9" reproduction of this Henderson cartoon (incorporating the name of your firm), fill out and mail coupon today.



MINNEAPOLIS-HONEYWELL REGULATOR CO.
Dept. AR-2-35, Minneapolis 8, Minnesota
Gentlemen:

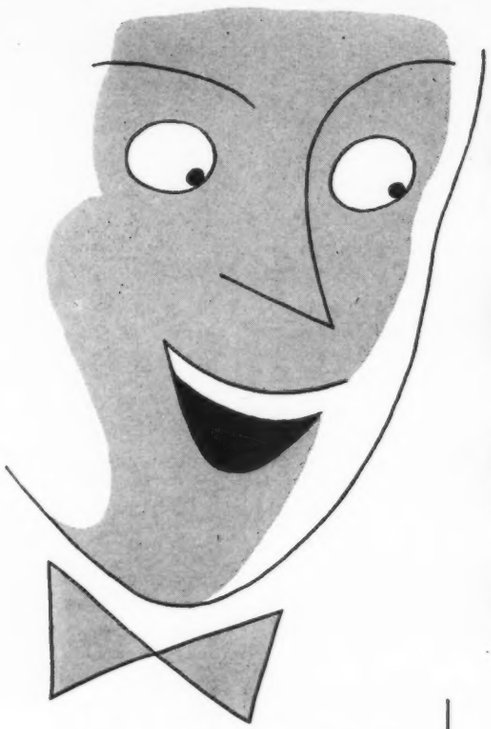
☐ Please send me your booklet on Weatherstat Zone Control.
☐ Please send me a free, personalized reproduction of the Henderson cartoon.

Name_____

Firm Name_____

Address_____

City_____ Zone_____ State_____



MR. ARCHITECT:

How much FP* are you building into your new designs?

*FP... we mean... Fashion Permanence!

DEPEND ON SEAPORCEL FOR ALL THESE F. P. FEATURES

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- *Numerous Textures*
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Seaporcel porcelain metal is definitely permanent and supremely good looking. Nothing can injure its original beauty. As the years roll on you can be sure that Seaporcel* porcelain will always be in style.

Used on exterior or for interior design Seaporcel is full of surprises. It's such a versatile material to work with . . . adaptable to almost any kind of architecture . . . almost limitless in design.

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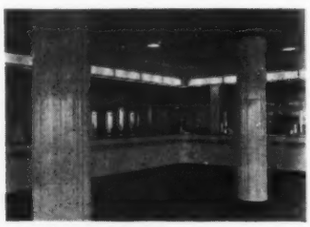
SEAPORCEL PACIFIC, INC.
1461 Canal Ave., Long Beach 13, Calif.



Fluted Columns — Fifth Avenue Office Building, New York

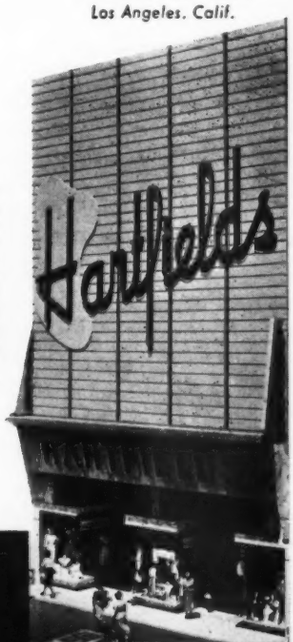
Entire Theatre Facade — Toledo, Ohio





Back wall, Front Counters and columns — Jones Beach, N. Y.

Ladies Apparel Shop Los Angeles. Calif.



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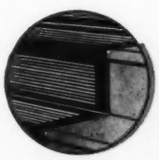
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EYE ON YOUR FUTURE

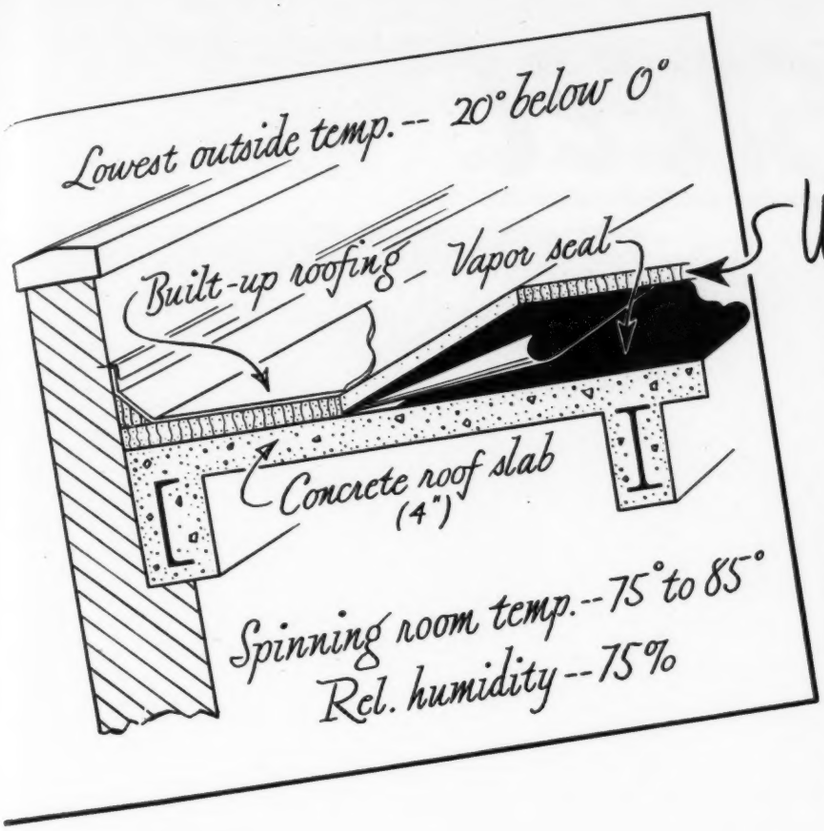
House & Garden starts the new year *right*... with an eye on future building prospects for *you*.
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APRIL: *Painting*	OCTOBER: *Insulation*
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Which insulation for this roof?

THE PROBLEM:

The spinning room in a rayon plant operates at a temperature of 75° to 85° F. A relative humidity of 75% is maintained. Lowest outdoor temperature is 20° below zero. Condensation must be prevented under the 4" concrete roof slab. What roof insulation will do the best job here?

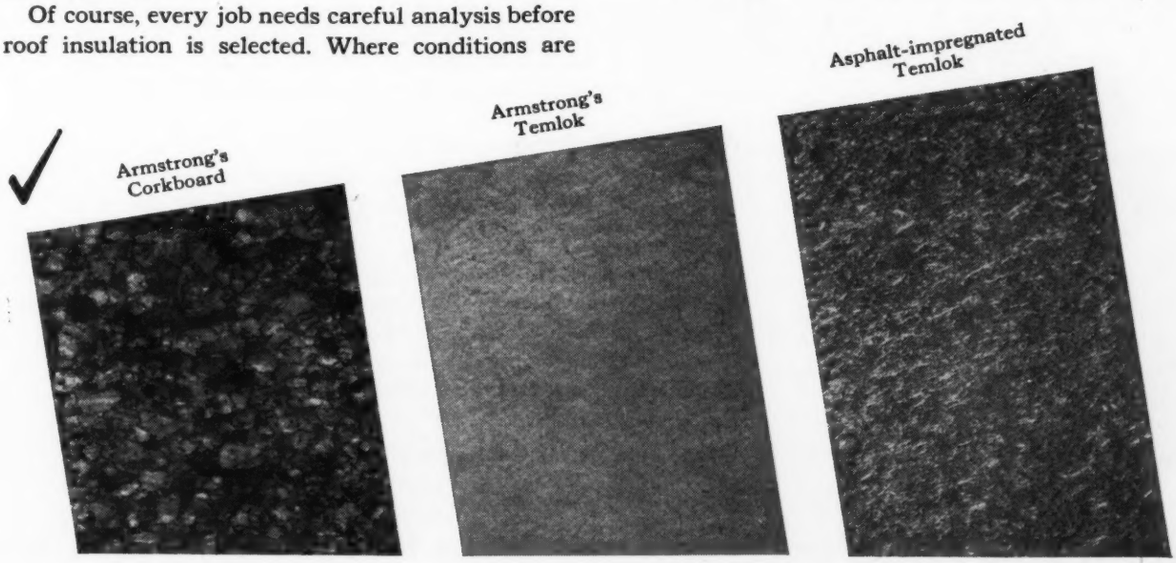
THE SOLUTION:

Since moisture condensation is a serious concern under this industrial roof, Armstrong's Corkboard is the logical choice for insulation. A corkboard thickness of only 1½" will prevent moisture from condensing under the concrete roof slab, even in the coldest weather.

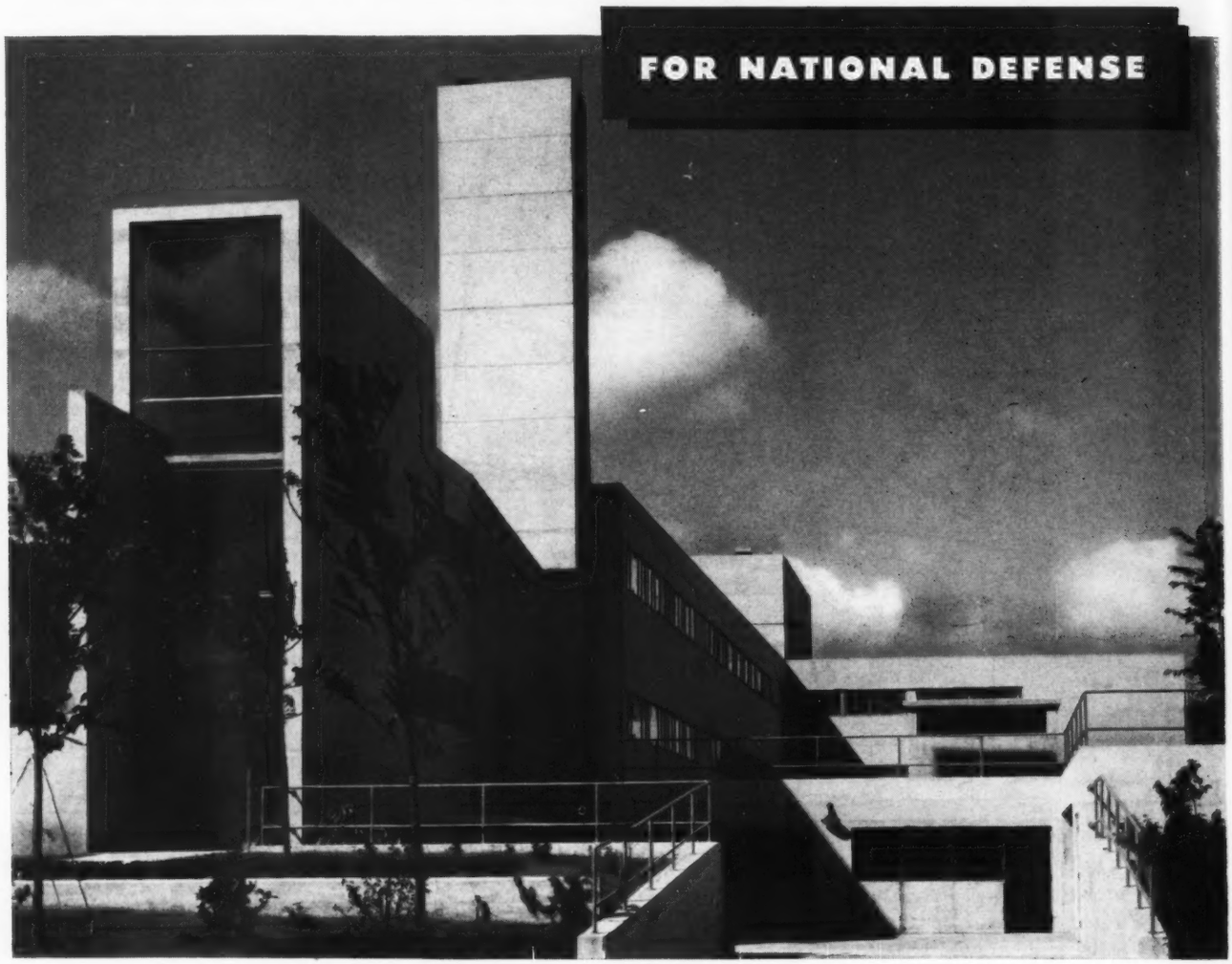
You can specify corkboard with confidence for every application where low thermal conductivity, high moisture resistance, and long life come first. Cork's durability under rugged conditions has been conclusively demonstrated. Installations made as long as thirty years ago are still giving highly satisfactory service.

Of course, every job needs careful analysis before roof insulation is selected. Where conditions are less severe, or cost comes first, you may want to specify Armstrong's Temlok®. This efficient, low-cost fiberboard is available in either regular or asphalt-impregnated forms. Call your nearest Armstrong Office for full details or write today to the Armstrong Cork Company, 2402 Concord Street, Lancaster, Pennsylvania.

ARMSTRONG'S ROOF INSULATIONS



SAVE STEEL



...build with REINFORCED CONCRETE



• Your steel allotment can be s-t-r-e-t-c-h-e-d.

Yes, you can save steel—critically needed today—by designing your buildings and other structures for reinforced concrete.

Not only does reinforced concrete require less steel—it has many other advantages. Reinforced concrete framing is low in cost and fast to erect—often providing extra months of income. Furthermore, it is inherently firesafe, and provides a rugged, durable structure which is highly resistant to wind, shock, and quakes.

On your next structure, *design for reinforced concrete!*

CONCRETE REINFORCING STEEL INSTITUTE • 38 South Dearborn Street, Chicago 3, Illinois



"... involving the world's largest and most intricate air conditioning project."

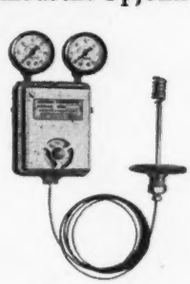
The Kalamazoo, Michigan, Plant of the Upjohn Company
The Austin Company, engineers and contractors, Chicago, Ill.

Over all, constantly on duty, are the super-human "brains" of another Johnson System of automatic temperature and humidity control. Like all Johnson Systems, the installation at Upjohn's was designed especially to solve the precise requirements of the industry which it serves. Such flexibility assures just the right results, regardless of the unusual applications which are encountered.

In the thoroughly modern Upjohn plant, the adaptability of Johnson equipment is demonstrated conclusively. There are 126 separate year-round air conditioning systems, with central heating and cooling coils, and at each the temperature of the air delivered to eight or more branch reheaters is controlled by Johnson instruments commanding Johnson valves and dampers. The characteristic Johnson "Master-Submaster" principle is employed in controlling Johnson valves on the reheaters. Submaster room thermostats for each area are reset, in accordance with outdoor temperature, to maintain exactly the required condition.

In addition to the comprehensive air conditioning equipment, 10 heating systems for smaller areas, 27 sets of convertors and 108 exhaust systems also are Johnson-controlled. In the truss spaces, 52 unit heaters are operated by Johnson thermostats and dampers, to prevent roof losses. Various special-purpose systems, for snow melting, office heating, hot water circulation in the warehouse, produce proper temperatures at the command of Johnson controllers which operate Johnson valves and dampers.

"Comfort" air, "process" air and critical humidity requirements present varied problems at the Upjohn plant. The proper solution of those problems is a part of the Johnson planned-for-the-purpose, installed-for-the-purpose policy. Whatever your problem may be, ask a Johnson engineer from a nearby branch office. JOHNSON SERVICE COMPANY, Milwaukee 2, Wisconsin. Direct Branch Offices in Principal Cities.

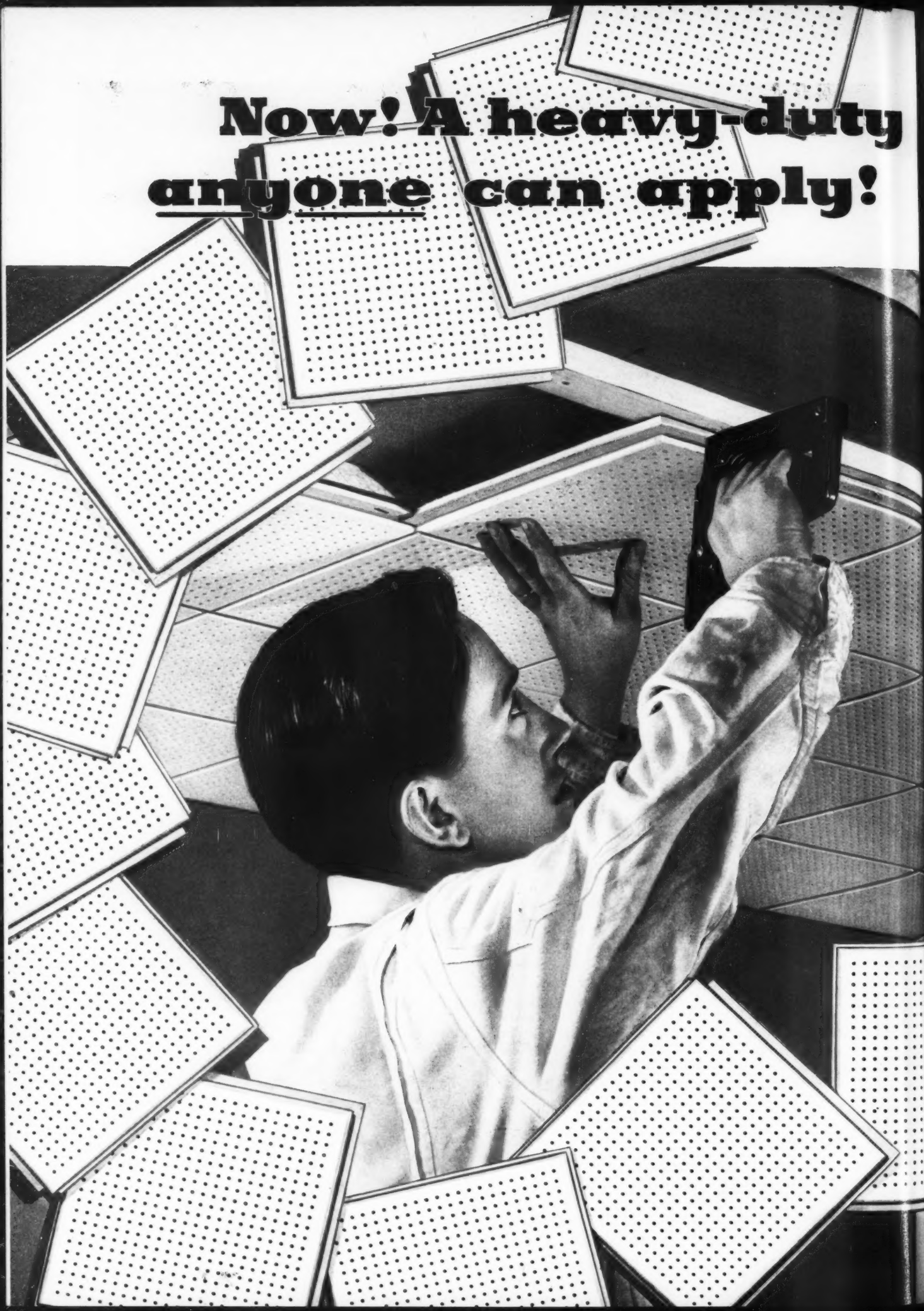


Johnson T-800-A
Capillary Thermostat

JOHNSON *Automatic Temperature and Air Conditioning* **CONTROL**

DESIGN • MANUFACTURE • INSTALLATION • SINCE 1885

Now! A heavy-duty p
anyone can apply!



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Insulite's new
ACOUSTILITE

Insulite, leader in insulation board research, brings you a beautiful, new perforated tileboard that goes up quickly, easily . . . *even when applied by inexperienced workmen!*

Easy application over any surface! Acoustilite with the special flanged tongue-and-groove joint makes it easy for anyone to do a fast, finished job over furring strips with nails or staples. Or, for quick application over continuous surfaces, there's new Acoustilite with the beveled butt-edge joint.

Best looking perforated tileboard you've ever seen! Compare it. Compare the beautiful, satin-smooth finish . . . the neat, cleanly-drilled holes. There's nothing else like it for new construction or remodeling.

Easy to clean, easy to paint! Acoustilite's tough surface withstands repeated cleaning with a brush, damp cloth or dry cleaning methods. You can repaint the heavy-duty surface over and over without affecting Acoustilite's sound-absorbing qualities.

Get samples and complete facts. Call your Insulite sales representative or drop us a card now.

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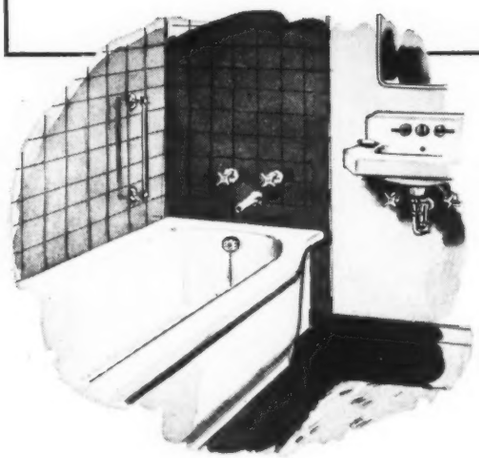
INSULITE

MADE OF HARDY NORTHERN WOOD

LOW COST, BUILT-IN BATH



POTOMAC – visible surfaces enameled



The Kohler Potomac meets the need for an attractive, practical, one piece recess bath of enameled cast iron for low-cost housing. Takes less space—saves 3″ at center, 6″ at each end, yet provides full-size bathing area. The lustrous, easy-to-clean enamel covers outside as well as inside surfaces.

Advantages include a low front for ease of stepping in or out, flat bottom, integral soap dish. The rim affords a hand grip for added safety. The slope end assures the comfort of a reclining position while bathing. The chromium-plated fittings are designed and made for lasting efficiency.

Kohler Co., Kohler, Wisconsin. Established 1873

KOHLER OF KOHLER

PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS • AIR-COOLED ENGINES • PRECISION CONTROLS



NOW! You can specify for immediate delivery from local stocks BullDog lighting panels up to 42 circuits

All Pushmatic Electri-Center Panelboards now standardized to simplify procurement, installation



The basic device principle has now been extended to all BullDog Pushmatic Electri-Center lighting panelboards up to 42 circuits.

Local distributors now stock highly flexible, standardized component parts that assemble quickly to fill any panelboard specification. By specifying BullDog lighting panels, you assure your contractor and client immediate, over-the-counter delivery of an item that once had to be specially ordered and custom-built . . . often took weeks to get.

Now, just 5 standardized panels replace hundreds of confusing catalog numbers . . . cover all lighting panel requirements up to 42 circuits.

Specify BullDog panelboards and eliminate special ordering and costly building delays. Assure your contractor immediate delivery on a mass-produced lighting panel that has been standardized at *no* sacrifice of quality . . . and at a definite *gain* in flexibility, speedy procurement and convenience.

Specify BullDog Pushmatic Electri-Center Panelboards.

BULLDOG Pushmatic Electri-Center Panelboards

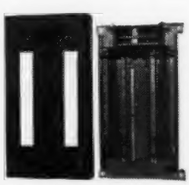
- For plants, commercial buildings, institutions.
- Underwriters'-approved up to 42 circuits.
- Meets Federal specifications WP 131a Class A.
- Push-button switching and automatic circuit protection. No reset position.
- Individual Pushmatic units (Thermal Magnetic) rated 15, 20, 30, 40 and 50 Amps; quick-mounting, fully interchangeable.
- Code Gauge steel fronts, flush or surface type.
- Code Gauge steel boxes with ample knockouts in removable ends.
- 4"-wide gutters for easy wiring.
- Provisions for Main Lugs at top or bottom.
- Flexible from every standpoint.

Write for Descriptive Bulletin No. 513

Now from local suppliers' stocks . . . 5 boxes . . . 5 fronts . . . 5 interiors . . . plus Pushmatic units . . . eliminate hundreds of catalog numbers and assure immediate delivery on these two complete panelboard lines.



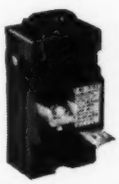
Boxes: 26", 32" and 38" high. All 20" wide; 5½" deep. Ample knockouts.



Basic Device principle. Four Pushmatic circuit breakers and fillers supplied with the two single-phase interiors; six with the three 3-phase, 4-wire interiors. Space to add up to 36 extra circuits later.



Fronts: Either flush or surface type. Sturdy. Attractive gray finish.



Thermal Magnetic Pushmatics. Famous "Push, it's ON, Push, it's OFF, Push, it's ON again" operation. Extra safety, extra convenience.

TWO COMPLETE LINES

Single-Phase, 3-wire, Solid Neutral

(P2B-304-28L) 28 circuits Max., Mains 200 amp.
(P2B-304-40L) 40 circuits Max., Mains 200 amp.

3-Phase, 4-wire, Solid Neutral

(P3B-406-21L) 21 circuits Max., Mains 100 amp.
(P3B-406-30L) 30 circuits Max., Mains 100 amp.
(P3B-406-42L) 42 circuits Max., Mains 200 amp.

AIA FILE NO. 31-D-3

BULLDOG

BULLDOG ELECTRIC PRODUCTS COMPANY

DETROIT 32, MICHIGAN • FIELD OFFICES IN ALL PRINCIPAL CITIES
IN CANADA: BULLDOG ELECTRIC PRODUCTS OF CANADA, LTD., TORONTO

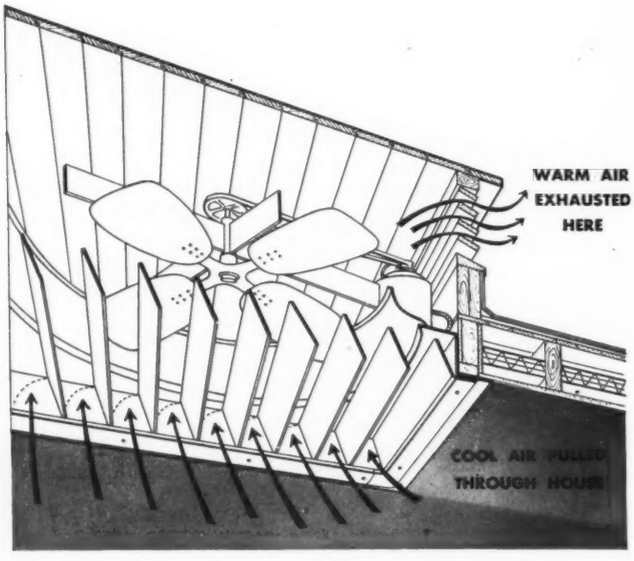
PIONEERS IN FLEXIBLE ELECTRICAL DISTRIBUTION SYSTEMS



Architect:
Chloethiel W. Smith

General Contractors:
Manning-Winthrop Corp.

House Beautiful **climate control house night-cooled with a Hunter Fan**



This cutaway drawing shows ceiling shutter in hallway with Hunter Attic Fan above pulling in cool night air and driving out accumulated heat through louvered transoms. Result: cool comfort.

Effective use of fan ventilation in a modern, low-roof house

Summers are hot and humid in Washington, D. C., but occupants will be cool and comfortable in this HOUSE BEAUTIFUL Climate Control House. It has no attic, so Architect Smith located a Hunter Package Fan in the small space between roof and ceiling over the bedroom hallway. This quiet, powerful fan pulls cool night air in through windows, across bedrooms—forcing hot, stale air out through clerestory louvers.

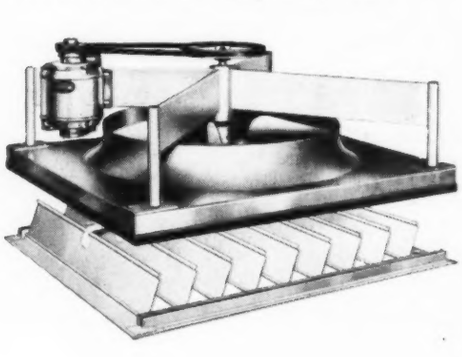
This application shows the simple adaptability of the Hunter Package Fan to any home. The compact unit (complete with ceiling shutter) is easily and inexpensively installed. Whether you're planning housing projects or expensive homes, the owners will thank you for providing cool comfort during hot summer months. Hunter Fans are famous for dependable performance.

Write for booklet "How to Cool for Comfort."
See our catalog in Sweets' Files.
HUNTER FAN AND VENTILATING CO.
396 S. Front St., Memphis 2, Tenn.

Hunter
SINCE 1886

Hunter

PACKAGE ATTIC FANS



He knew what he wanted

. . . BUT HOW TO ACHIEVE IT?



. . . and so, too, with your clients when they place their problem in your hands. They depend on YOU — on your experience and knowledge to take advantage of specific material and methods to achieve the end result they have in mind.

For that reason, you'll want to know about Flexi-Flor and Wall-Flex, so that you can make use of these new RUBBER materials to your best advantage and to the complete satisfaction of your client.

You have many specifications where the cushion resilience, the exceptional color and design range, the low maintenance and lifetime durability of Flexi-Flor and Wall-Flex can make an installation outstanding. We'd like to be sure you have all the details on R.C.A. — the only line for COMPLETE rubber installations.

WALL-FLEX

walls of rubber. New — exclusive — flexible $\frac{1}{16}$" gauge fabric-back rubber in 28 colors. Simple, quick, one-man installation with the advantages of continuous corners and curved surfaces, sanitation, low maintenance and economy. You'll want to include the versatility and colorful beauty of Wall-Flex in your plans.

FLEXI-FLOR

ubber. Available in 28 form, $\frac{3}{32}$", $\frac{1}{8}$" complete range on of uses in addition to — counter tops, inboards, desk tops, etc.

ORIES

nned to complete the eature strips — borders — ase — corners — and tread rs in the same 28 colors, stair ds for residential and commercial — all of the same dependable .C.A. rubber. Everything you need for complete planning.

Time-tested for:
HOSPITALS
OFFICES
APARTMENTS
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STORES
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RESTAURANTS
RESIDENCES

RUBBER

FLEXI-FLOR FLOORS of RUBBER

WALL-FLEX WALLS of RUBBER



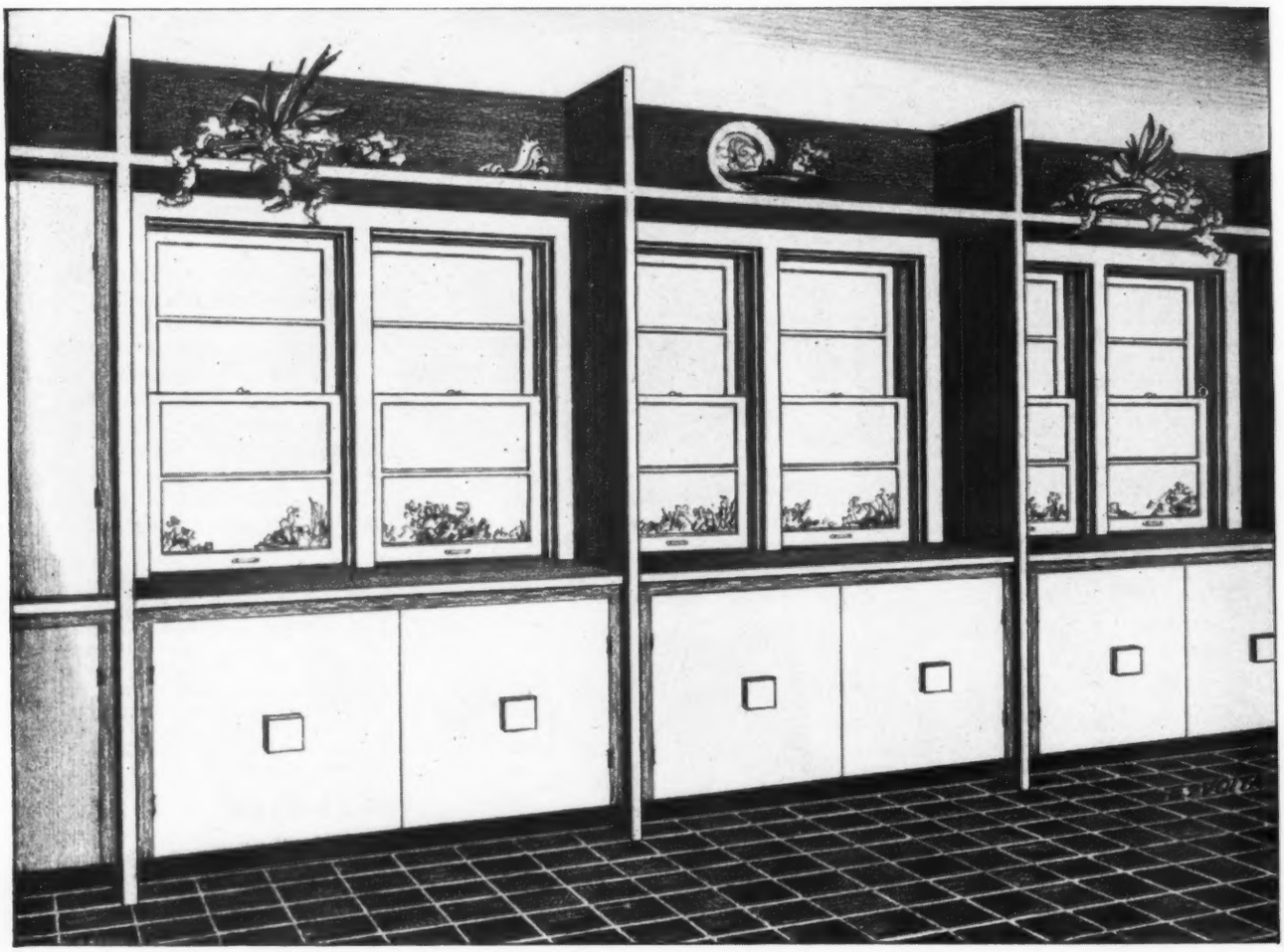
CONSULT SWEET'S Architectural File —or write for full color brochure, samples and installation folder.

R·C·A

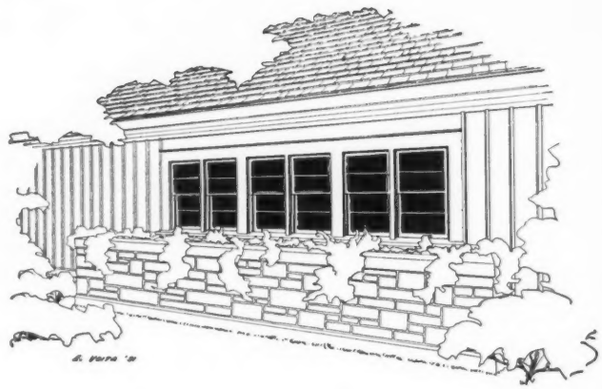
"the more we're together . . the happier you'll be"

THE R. C. A. RUBBER COMPANY
1849 E. MARKET STREET
AKRON 5, OHIO

convenience WITH WOOD WINDOWS



Precision construction—careful fitting at the factory—makes wood windows easy to install. Installation cost is low because wood windows are available as complete units, pre-glazed and ready to set into the wall. There's owner convenience, too—wood windows hold paint lastingly, and wood window parts discourage annoying condensation. Glass replacement is lessened because wood windows have a shock absorbing quality which cuts down the possibility of glass breakage as the result of sudden jars. Wood Window Program, 38 South Dearborn Street, Chicago 3, Illinois.



wood windows

for modern beauty and modern performance



make every bit of stainless count

Wise and efficient use of available stainless steel stocks can go a long way to making sure that all defense and industry needs are met.

Getting the best available materials for your job is a vital first step—Crucible, pioneers in the development of stainless steels, urges you to take full advantage of our metallurgical staff and stainless fabricating specialists. Their wealth of experience—based on thousands of stainless applications—can help stretch your stainless supply. There is no other metal that can work the same "miracles" as stainless, and these Crucible metallurgists can help you select the best available stainless grades for your needs.

It's up to you to make every bit of stainless count—we're equipped to help you do it. When your problem is stainless—call on us.

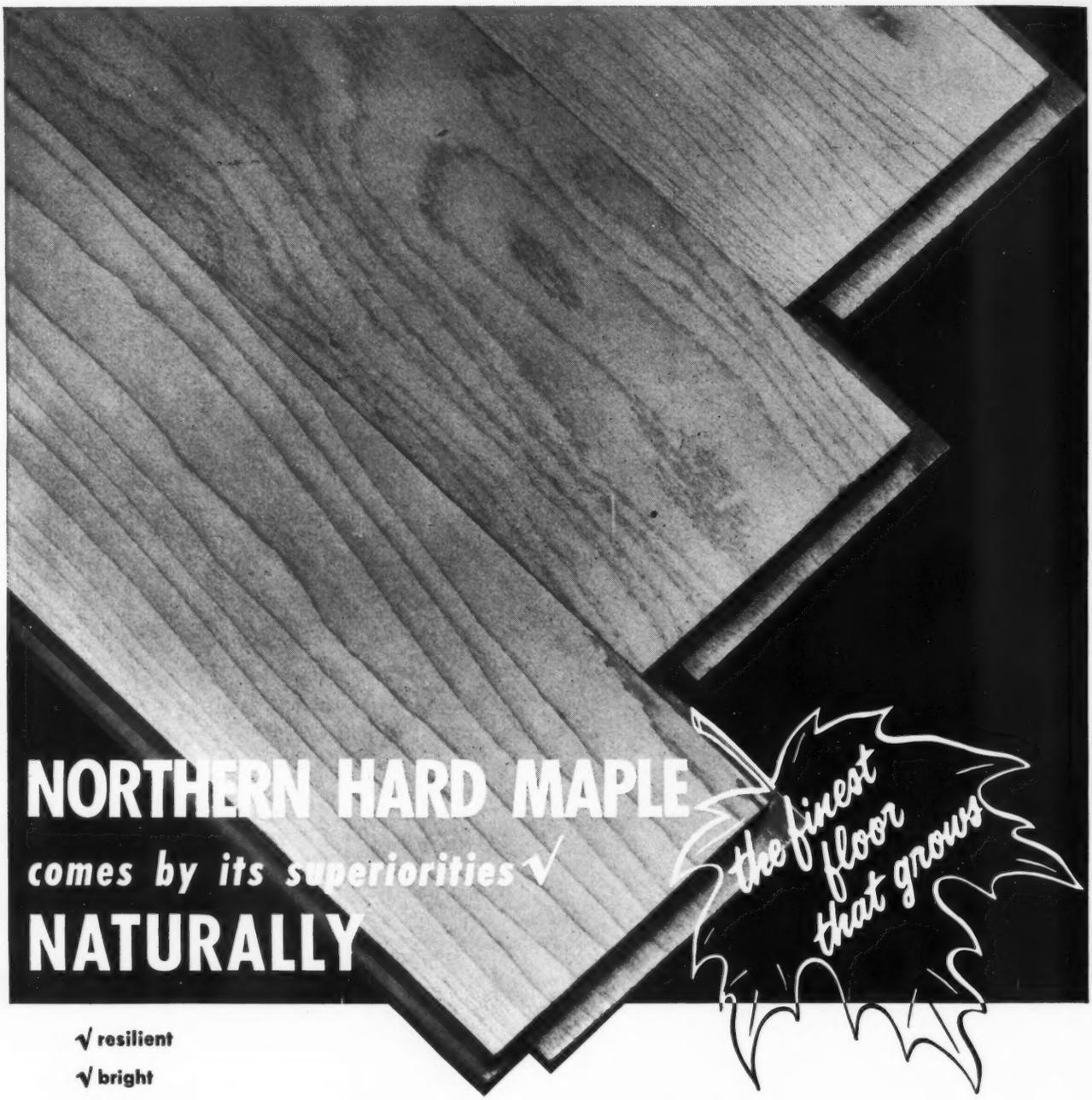
CRUCIBLE first name in special purpose steels

52 years of Fine *steelmaking*

STAINLESS STEEL

CRUCIBLE STEEL COMPANY OF AMERICA, GENERAL SALES OFFICES, OLIVER BUILDING, PITTSBURGH, PA.

STAINLESS • REX HIGH SPEED • TOOL • ALLOY • MACHINERY • SPECIAL PURPOSE STEELS



√ resilient
√ bright
√ smooth
√ tight
√ warm
√ dry
√ non-splintering
√ easy cleaning
√ easy re-surfacing
√ dent-resistant

When Nature evolved Northern Hard Maple she met every requirement of fine flooring. She didn't overlook a single one of the qualities most prized. The photograph of three MFMA Northern Hard Maple flooring strips is simply by way of reminder . . . of Maple's delightfully attractive grain pattern, its toughness and density, its velvet smoothness and warming comfort to touch and to the eye. The continued availability of good MFMA Northern Hard Maple, Beech and Birch is one piece of good fortune among so many perplexing scarcities.

MAPLE FLOORING MANUFACTURERS ASSOCIATION
Suite 563, Pure Oil Bldg., 35 E. Wacker Drive
CHICAGO 1, ILLINOIS

See Sweet's
Arch. (13k-MA) for
Specification data.

FLOOR WITH *NORTHERN* HARD MAPLE
BEECH AND BIRCH

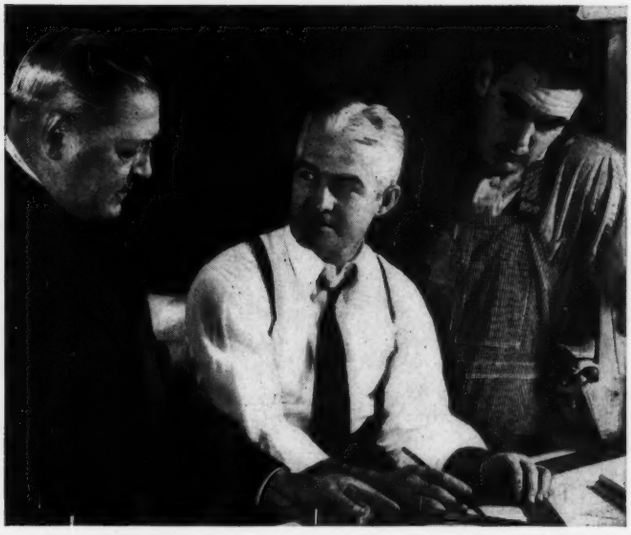
Do You Have These Roofing and Siding Problems on that Industrial Job?



1 Are climate and surroundings unfavorable? If plant is located in area of dampness, salt air, or smoke and corrosive gasses or near fire hazards—specify ASBESTONE CORRUGATED asbestos-cement Roofing and Siding. It will last as long as the building.



2 Will the building be exposed to open flame or chemicals? Neither flame nor corrosive conditions harm rugged ASBESTONE. It will give a lifetime of maintenance-free service—at a low-cost-per-year.



3 Is economy a big factor? Only a single ASBESTONE covering is required *for complete interior and exterior* protection on steel or wood framed buildings. ASBESTONE is uniformly dense throughout, a good insulator.

ASBESTONE-CORRUGATED

Asbestos-Cement Roofing and Siding

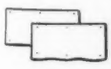
Asbestone Standard "400"
for heavy-duty service.

Asbestone Economy "250"
(lighter weight) for wood or light steel framing.



Fastener assemblies available for all types of framing

OTHER LIFETIME PRODUCTS MADE BY ASBESTONE



Asbestone Siding Shingles
Attractive designs and colors



Asbestone Roofing Shingles
Styled in the modern manner



Asbestone Wallboard
—Utility and Flexible grades—for interior and exterior use

See Asbestone Corrugated Section in Sweets Architectural File

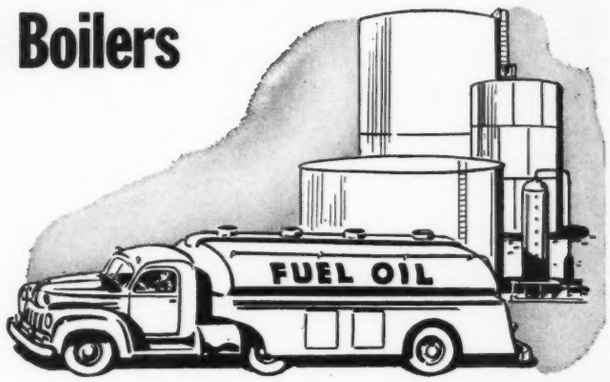
Asbestone Corporation
5386 Tchoupitoulas St., New Orleans, La.
Please send us free specification catalog and literature on Corrugated Asbestone.
Name .....
Street .....
City ..... State .....

Specialists in Asbestos Cement Building Products for 30 Years

ASBESTONE CORPORATION

You keep main-line efficiency when switching fuels with Smith-Mills Cast Iron Boilers

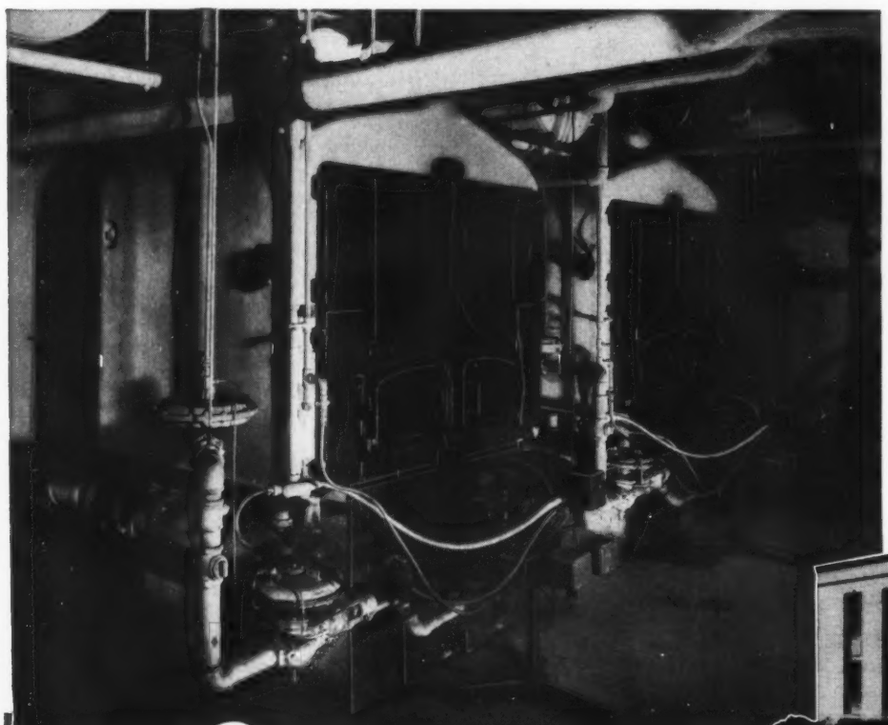
Ideal for installation with combination gas-oil burners



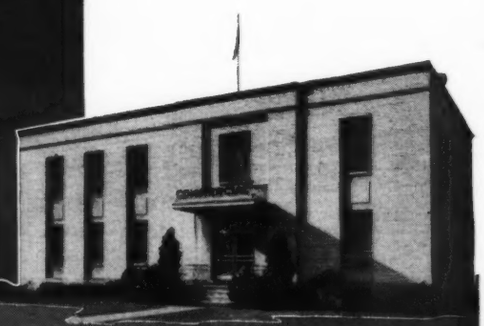
Stand-by service offers very real fuel economy — provided the boiler maintains uniformly high efficiency with either gas or oil. When the call comes to switch fuels there is no change in the demand for constant, uniform heat. A Smith-Mills Cast Iron Boiler responds, maintaining top performance whether the switch is from gas to oil or oil to gas.

This is one of the reasons why Smith-Mills Cast Iron Boilers are "following the pipe lines." Their unique fuel design absorbs heat quickly from any fuel, with low draft loss, and high efficiency. Their smooth, uniform cast iron water tubes resist gas corrosion — are practically self-cleaning.

Now add the other advantages: Over-all savings in initial investment, high heating efficiency with fuel economy, low maintenance cost, installation and expansion without structural changes — *and extra long boiler life* — and you have the perfect combination for your conversion gas-oil sales.



Pictured at the left is the boiler room of the Commercial Motor Freight Terminal in Columbus, Ohio, showing two #440 Mills Boilers. They are now burning gas but can convert to oil in a few minutes should emergencies arise making it necessary to restrict the use of gas. Below is an exterior view of the new Commercial Motor Freight Terminal. Sauer Co., Columbus, Heating Contractors.



H. B. *Smith* CAST IRON BOILERS

THE H. B. SMITH CO., INC., WESTFIELD, MASS. *Established 1853*



NEW IDEAS IN LIGHTING

from Guth . . . 50 years young and still pioneering

Year after year since 1902 the industry has looked to Guth for new and improved lighting fixtures. It's looking again in 1952.

Guth is preparing some pleasant surprises for you. Can't tell you much about them yet . . . some are still on the drawing board, others are being readied for production. But you can be sure all of them will mean better, more efficient lighting.

be looking for:

1 An extraordinary new Louvre

2 A Telescope Fixture that stretches your warehouse space . . . and your dollar

3 New and revised Fluorescent designs

4 An Incandescent line years ahead

Guth

Guth is now in R-L-M N. E. M. A. Fleurolier

LIGHTING

THE EDWIN F. GUTH COMPANY / ST. LOUIS 3, MISSOURI

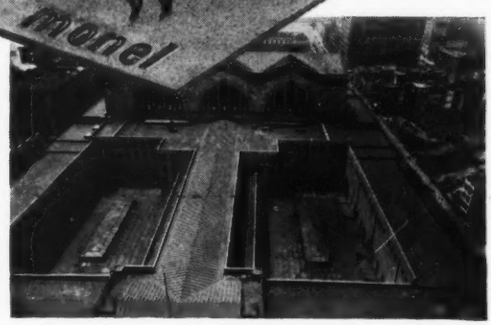
Leaders in Lighting since 1902

870



A roofing sheet to remember

...for protection against corrosion!



41 YEARS YOUNG. This batten type Monel roof on New York's Pennsylvania Station covers an area of 300,000 square feet. Installed in 1910, it gives every evidence of lasting for the rest of this century.

Here's a roofing sheet proved by time and severe conditions . . . Monel®.

It stands up against smoke . . . rain . . . chemical fumes . . . all kinds of corrosive atmospheres.

Monel can't rust, and it stubbornly resists corrosion by acids, alkalis and salts. This not only explains why Monel roofing lasts so long, but also why it needs so little maintenance.

At the moment — because of the demand for nickel and nickel alloys in the defense program — the use of Monel for building applications is prohibited by Government order.

But the time will come again when there is enough Monel available for normal roofing needs! Meanwhile, let INCO help you in planning for the future. Call on our Architectural Section for the latest technical information and literature. No obligation, of course.

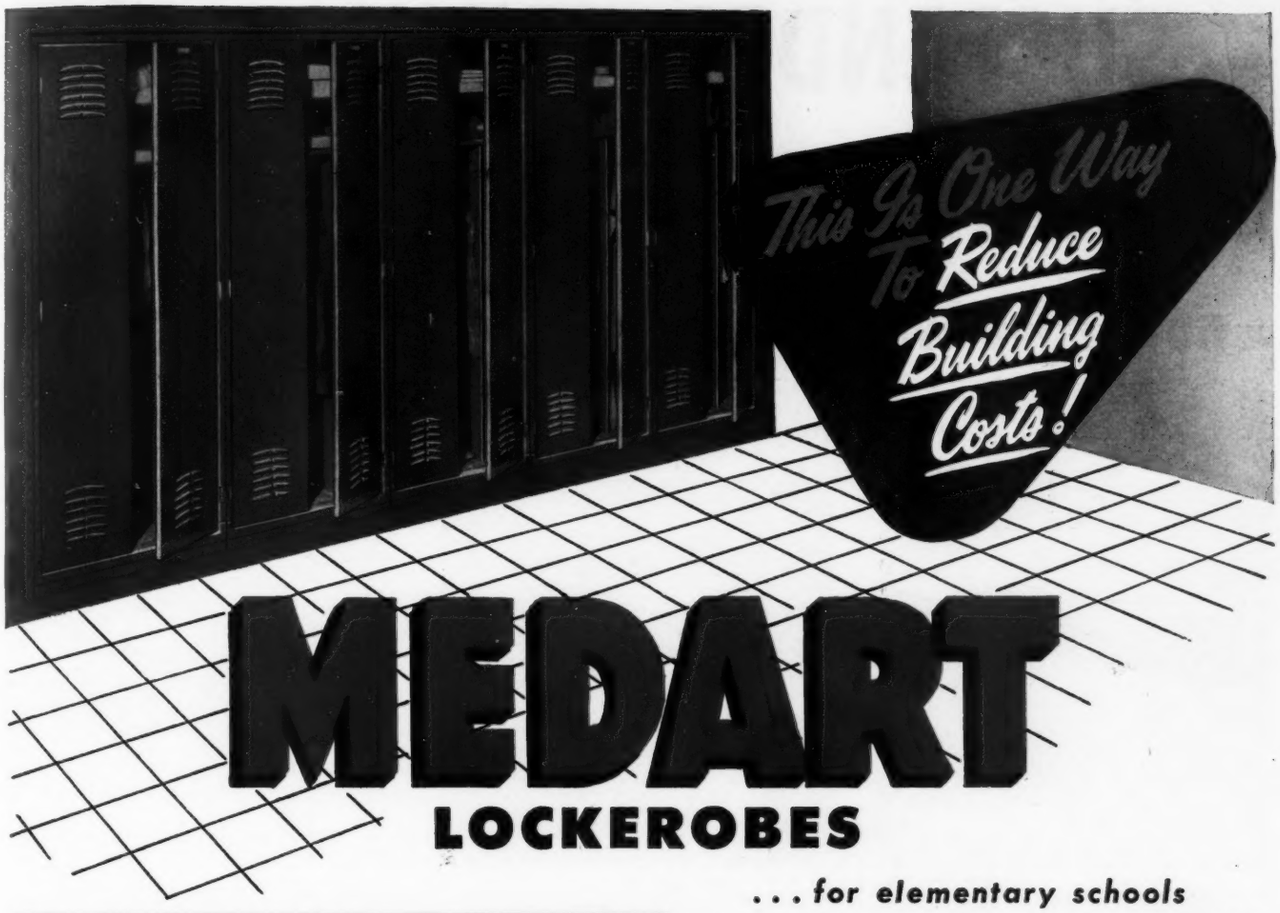
monel

"For the Life of the Building"

INCO TRADE MARK

THE INTERNATIONAL NICKEL COMPANY, INC.

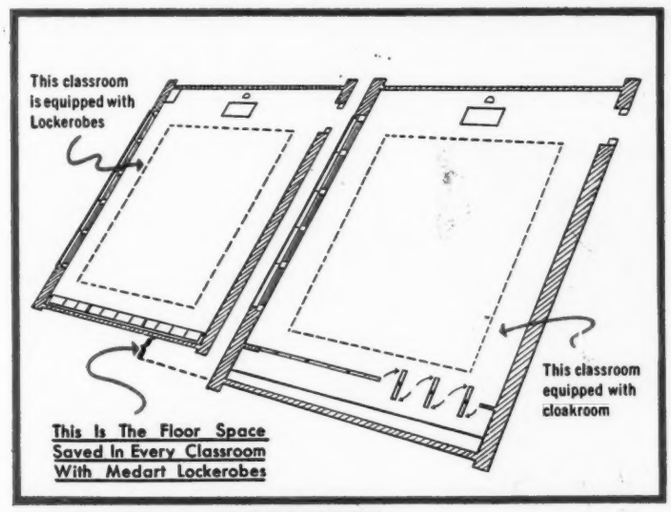
67 Wall Street, New York 5, N. Y.



MEDART

LOCKEROBES

. . . for elementary schools

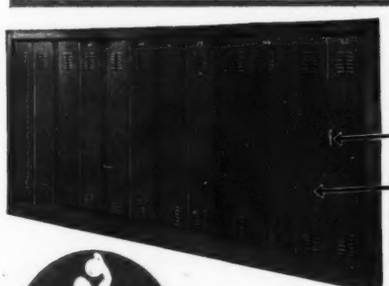


Compare the floor plans at the left . . . and multiply this saving of space by the number of classrooms in the typical elementary school. Consider the reduced cubic content of each room, and the tremendous saving in building costs made possible by Medart Lockerobes!

But economy in construction isn't all. Because Lockerobes are installed in 16″ unfinished recesses, great areas of plaster, tile or glazed brick are eliminated. No overhead framing is required. And finished flooring, necessary in ordinary cloakrooms, can be forgotten. Add to this the saving in maintenance, for Lockerobes are built of steel which requires no upkeep.

Another exclusive feature of Lockerobes is Medart's "Simultaneous-Opening, Master Door Control" by which the teacher alone opens and closes all the doors, by the simple operation of the Master Door Control. There is no disorder, noise or confusion, but neatness, quiet, safety and order.

Lockerobes are vermin-proof, fire-proof and sanitary. There is ample provision for unrestricted air circulation. And extra sturdy, reinforced construction keeps Lockerobes like new for years.



SIMULTANEOUS-OPENING, MASTER DOOR CONTROL

Open this door and all the right-hand doors open.

Open this door and all the left-hand doors open.

Non-recessed Free-Standing Lockerobes, for installation against the wall, on steel or built-in bases, also offer space-saving advantages over old-fashioned cloakrooms, plus all the other features of recessed Lockerobes.

Write For Catalog
that describes both Lockerobes and Medart Grade-Robes

FRED MEDART PRODUCTS, INC. 3540 DE KALB STREET ST. LOUIS 18, MISSOURI

SEE OUR CATALOG IN SWEET'S

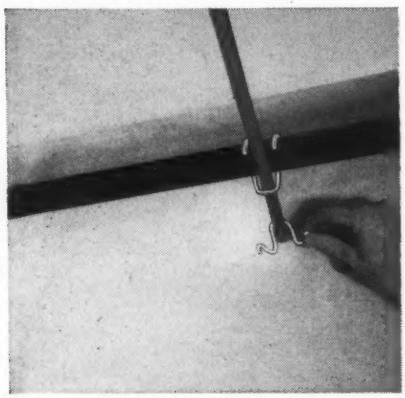
World's Only Complete Single Source For Gymnasium Equipment

Telescopic Gym Seats | Lockers & Wire Basket Shelving | Lockerobes & Grade-Robes | Basketball Backstops | Physical Fitness Apparatus | Basketball & Football Scoreboards | Physical Therapy Equipment

SUSPENDED CEILINGS of GYPSUM LATH and PLASTER

now easy with Gold Bond's CLIP-LOK System

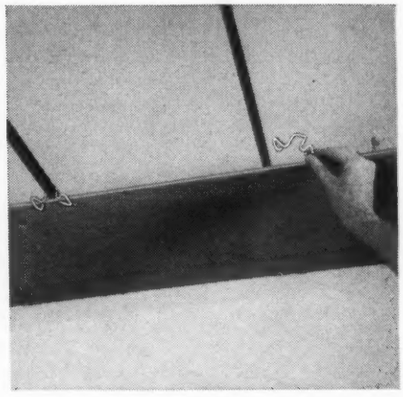
It may be applied to any suspension of 3/4" cold-rolled channels not over 16" on center.



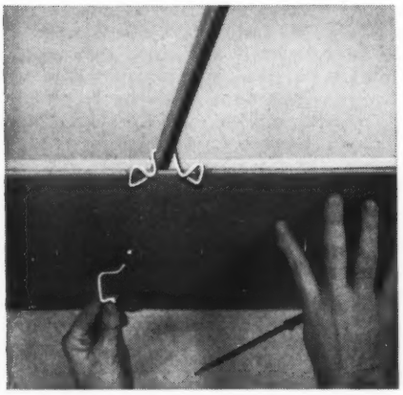
1. Here is the first step in installing an economical ceiling with the new Gold Bond Clip-Lok System. "F" starter clip is placed over ¾" furring channel at wall line. Note Gold Bond Hairpin Clip joining channels.



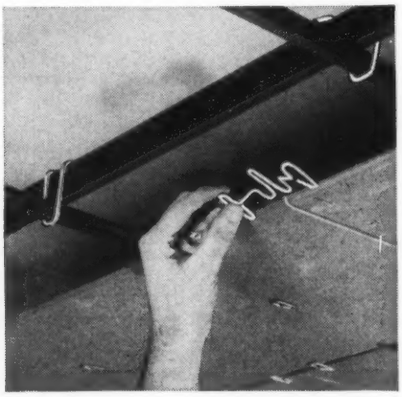
2. Now an easy-to-handle piece of Gypsum lath is engaged by the starter clips. Either plain or perforated ⅜-inch Gold Bond gypsum lath may be used. Easy-to-use, sturdy clips are made of strong wire.



3. Here the free side of the lath is supported by spring action "F" channel clips. They encircle the furring channels and provide a positive grip of lath to channel. Fast applying, no bending of clip required.



4. The center of the lath panel is permanently secured to the furring channel by the "Z" clip. This clip is pushed through the lath and locked over the channel. Holes can be punched with screwdriver or with the clip itself.



5. Ends of the lath fall between channels and are secured to one another by means of the flexible spring-type "C" connector clip. Completed lathing is rigid, providing a sturdy base for an economical application of ½" thick two coat plaster work.

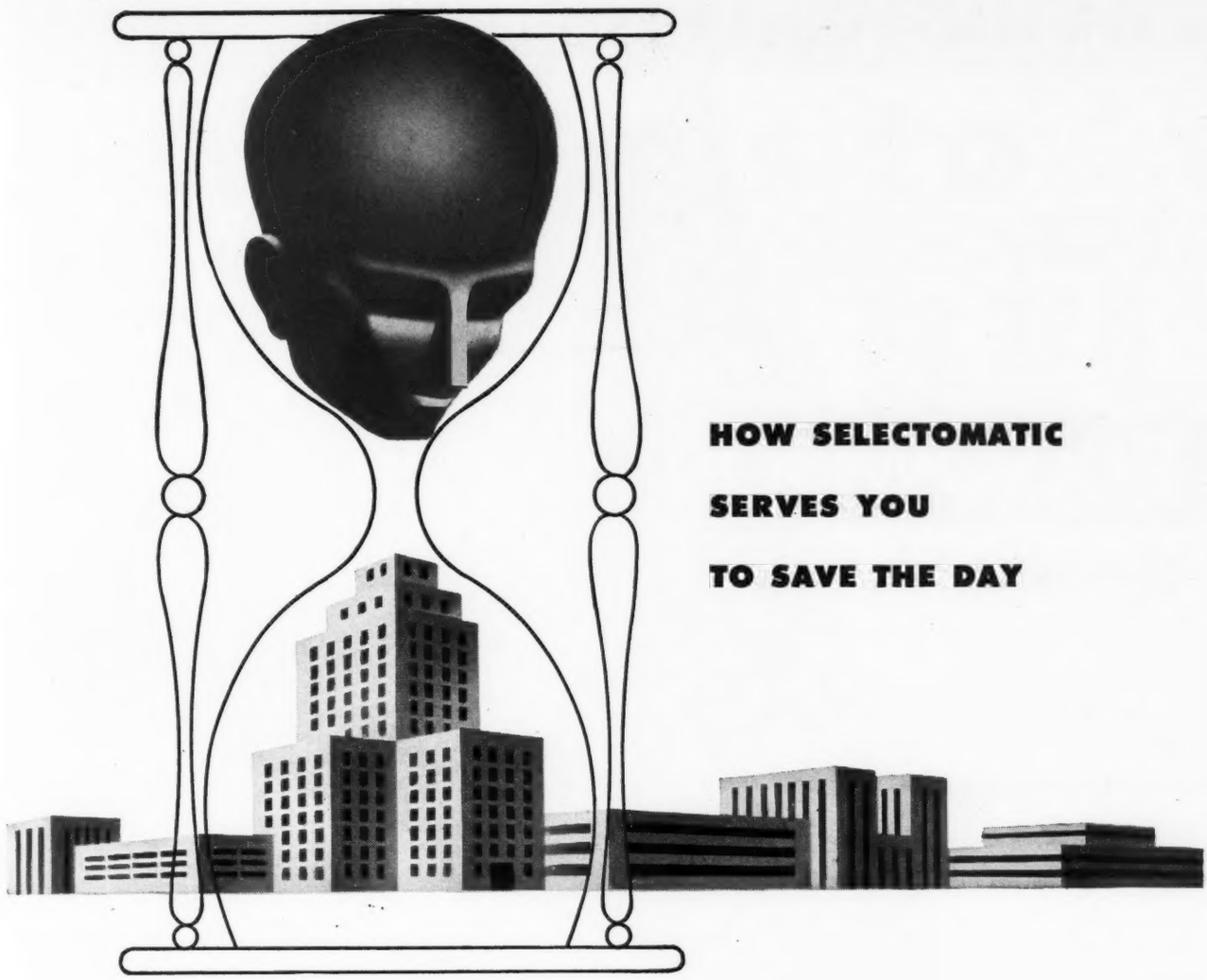


Specification of this Gold Bond Clip-Lok System with Gold Bond gypsum lath permits contractors to build suspended ceilings that might otherwise be held up for lack of critical materials. Ask your local Gold Bond representative for more details, or write us.

Gold Bond Clips are also available for sound-rated and crack resistant wood-framed partitions.

NATIONAL GYPSUM COMPANY, BUFFALO 2, N. Y.

Lath, Plaster, Lime, Sheathing, Wall Paint, Textures, Rock Wool Insulation, Metal Lath, Sound Control Products, Fireproof Wallboards, and Decorative Insulation Boards.



HOW SELECTOMATIC SERVES YOU TO SAVE THE DAY

You know as well as anyone how much wasted time can cost in today's race against the clock. Long waits for inefficient elevator service, for instance, can waste a lot of time . . . can mean aggravating delays when promptness is so important.

But unique Westinghouse Selectomatic elevators cut your waiting time to a minimum. This fabulous elevator control system responds and dispatches cars in accordance with all traffic conditions.

And for extra time-saving speed, Selectomatic installations now include Westinghouse Synchro-Glide Landing Control. It makes accurate landings extra-smooth, cushion-soft.

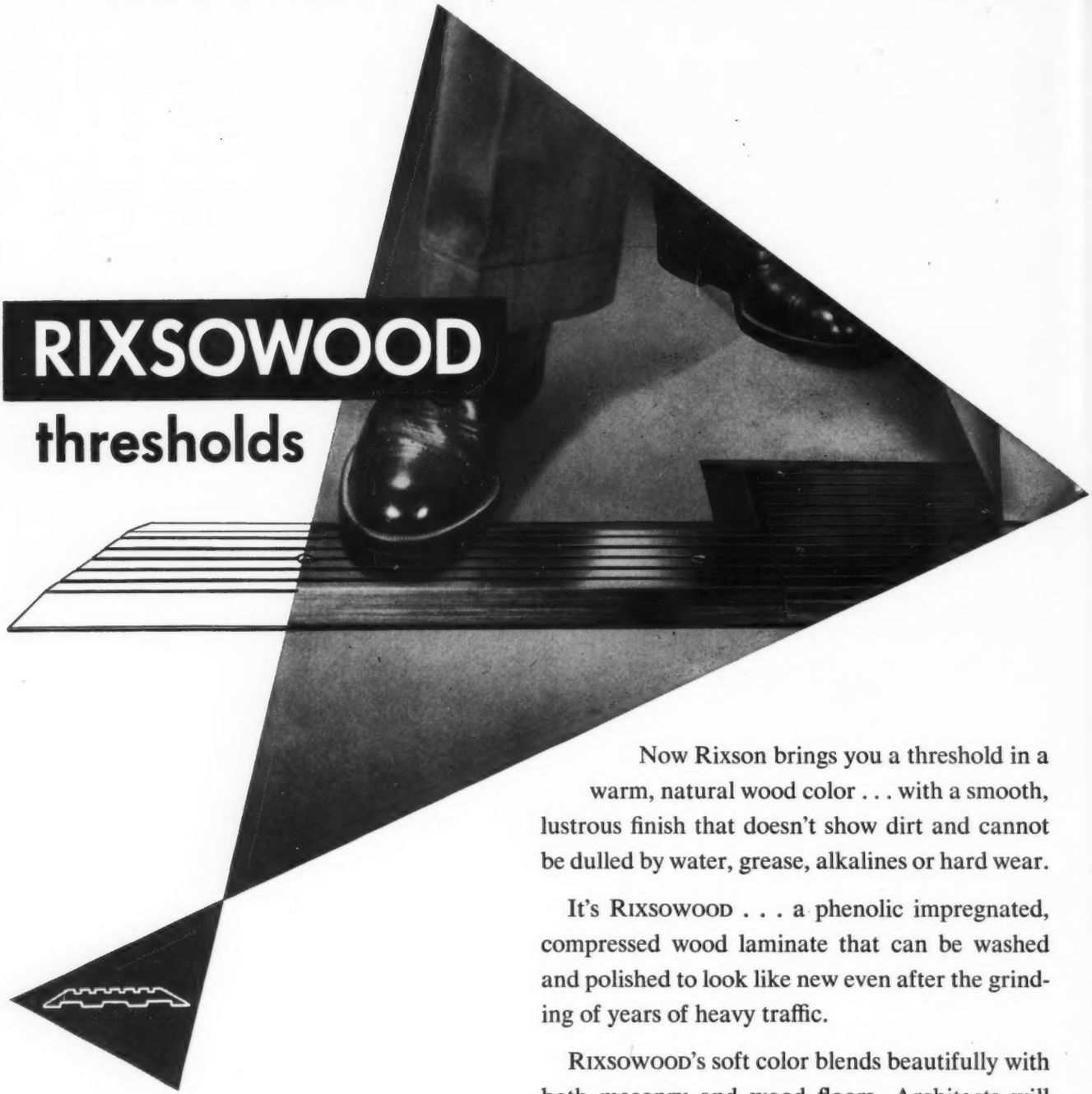
If you have a part in elevator planning or buying, test-ride the new Selectomatic with Synchro-Glide Landing before making any decisions. See how smooth-riding and time-saving an elevator can be. For names of Selectomatic installations in your locality, contact the nearest Westinghouse Elevator office, or write Westinghouse Electric Corporation, Elevator Division, Dept. D1, Jersey City, N. J.

For years, Westinghouse engineering developments have stimulated the vertical transportation industry to strive for ever-higher standards of quality and efficiency. In every phase of vertical transportation—equipment, maintenance and service—Westinghouse has been the vanguard for progress. So, whatever your traffic problems may be—there's a Westinghouse Integrated Vertical Transportation System to solve them completely. Look ahead with the leader . . .

YOU CAN BE SURE... IF IT'S **Westinghouse**

J-98624

a new quality-tested RIXSON product



RIXSOWOOD thresholds

Now Rixson brings you a threshold in a warm, natural wood color . . . with a smooth, lustrous finish that doesn't show dirt and cannot be dulled by water, grease, alkalines or hard wear.

It's RIXSOWOOD . . . a phenolic impregnated, compressed wood laminate that can be washed and polished to look like new even after the grinding of years of heavy traffic.

RIXSOWOOD's soft color blends beautifully with both masonry and wood floors. Architects will prefer it to metal thresholds in many installations.

Like all Rixson thresholds RIXSOWOOD thresholds are CUSTOM MADE . . . to assure a perfect fit and to effect a neat, trim, entrance appearance.

Write for complete details on RIXSOWOOD thresholds.

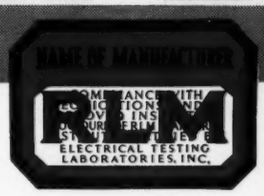
Highest wearing qualities under normal threshold usage

Rixsowood has been given every abuse that a threshold normally receives. It remains dimensionally stable when soaked in water. Withstands frictional wear equivalent to years of heavy traffic. The high-lustre finish is not affected by grease, soaps, or dirts.

THE OSCAR C. RIXSON COMPANY

4450 W. Carroll Avenue • Chicago 24, Illinois

Here are the Answers to the most frequently asked questions about the RLM LABEL



Q What do the initials RLM stand for?

A The "R" stands for Reflector, the "L" for Lighting equipment and the "M" for Manufacturers—*Reflector* and *Lighting Equipment Manufacturers.*

Q What does the RLM Label stand for?

A The label affixed to a lighting unit certifies that the reflector meets the minimum specification and performance standards, determined and established by the RLM Standards Institute.

Q Who sponsors the RLM Standards Institute?

A Incorporated as a non-profit organization, the Institute is sponsored by twenty manufacturers who voluntarily elect to manufacture industrial lighting equipment in accordance with RLM Standard Specifications.

Q How are RLM Standard Specifications established?

A The RLM Technical Committee, with the counsel of outstanding illuminating engineers, continuously reviews present specifications and suggests improvements and prepares new specifications. The Committee's recommendations then are reviewed by the Board of Trustees and finally submitted to the Institute Members for ratification. The adoption of new specifications requires approval by at least 80% of the membership.

Q How does the RLM Label assure conformance to RLM Standards?

A Representatives of the Electrical Testing Laboratories periodically visit the plants of all manufacturers participating in the RLM Specification-Certification Program. These ETL inspectors are authorized to take lighting units right off the assembly line or out of stock at random and make the required tests. They may also obtain test samples direct from distributors' stocks in order to check conformance to RLM minimum standards.

Q Who are the Electrical Testing Laboratories?

A Electrical Testing Laboratories, Inc., 2 East End Ave., New York 21, N. Y., is an independent testing organization which has conspicuously served industry for over 50 years. With this impartial and scientific organization rests the sole responsibility of determining whether or not an industrial lighting unit measures up to every individual quality standard that qualifies it to bear the RLM Label.

Q What are the 4 Basic Tests made by Electrical Testing Laboratories?

A (1) Quality of reflecting surface, (2) Reflection factor, (3) Shielding angle and reflector dimensions, and (4) Photometric test for light distribution and efficiency.

Q In addition to design and construction features that meet certain minimum standards, what else does the RLM Label assure the buyer?

A It provides the buyer with a warranty of uniform quality. In addition to the periodical inspections and tests made by the Electrical Testing Laboratories, the manufacturer warrants that every unit shipped by him meets the published specifications of the Institute.

Q How many different types and sizes of RLM Units are there?

A There are 18 basic types of RLM Units and 35 different sizes made by one or more of the 20 member-manufacturers. At present there is available a total of over 250 different makes and types of units which either bear the RLM Label or are on submittal for testing and certification at Electrical Testing Laboratories.

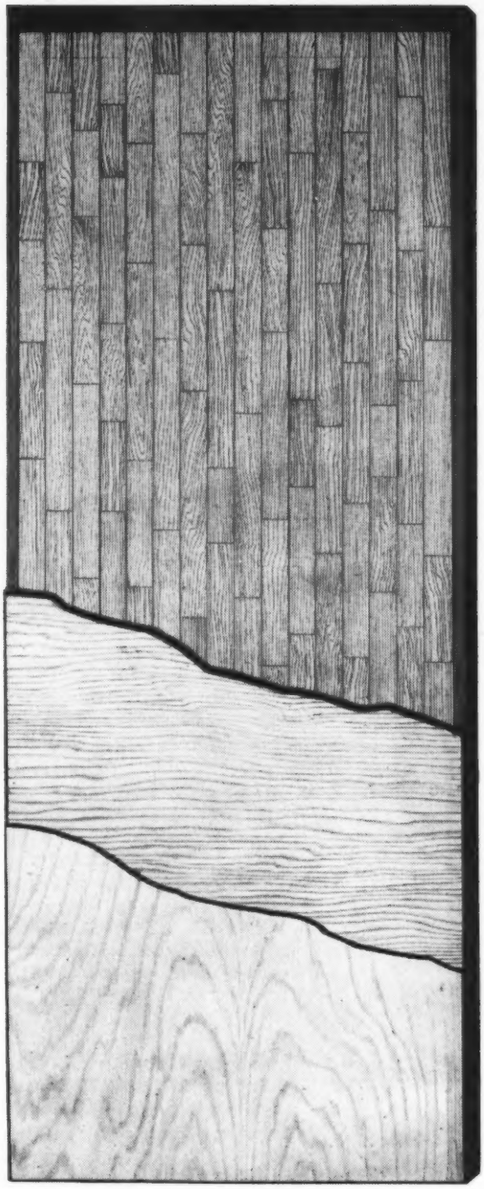
Q How may I obtain free copies of all existing RLM Specifications and a check list of RLM-Member Manufacturers?

A Send for the 44-page RLM Specifications Booklet and the new RLM Bulletin 1050. Write RLM Standards Institute, Suite 827, 326 W. Madison St., Chicago 6, Ill. Your copies will be mailed gladly without cost or obligation.



R5370

It's the unseen quality of Roddiscraft solid core flush veneered doors that merits your confidence



This Construction

explains the great strength and durability of Roddiscraft Solid Core Flush Veneered Doors. Standard thickness face veneers are bonded to 1/10 inch hardwood cross-bandings with fully waterproof phenolic resin glue — forming an assembly which, when backed by the solid core, is very difficult to chip or split. Standard thickness face veneers (1/28 inch for most woods) stand up best to extremes of temperature and humidity. The waterproof glue line being so near the surface, shrinking and swelling of face veneers is practically eliminated — the formation of hairline cracks is prevented — permanent beauty is assured.

Provides these advantages for Apartments, Hotels, Office Buildings, Schools, Institutions:

FIRE RESISTANT — substantiated by independent laboratory tests where standard Roddiscraft Doors have exceeded the 40-minute fire test.

SOUND RESISTANT — Roddiscraft Solid Core Doors develop an average sound transmission loss of 30.9 decibels — only a little less than specially constructed sound resistant doors of much greater cost.

WATERPROOF — phenolic resin glue provides two completely waterproof shields over the entire area of the door on each side of the core.

Resistant to Abuse — core, crossbandings, and face veneers are welded into a single unit with the inherent strength of true plywood construction.

Where you need the best in beauty and durability, specify Roddiscraft Solid Core Flush Veneered Doors. See Sweet's Architectural File, Page $\frac{16c}{Ro}$ for complete specifications, including hollow core doors, X-ray doors and doors for added fire protection.

NATIONWIDE Roddiscraft WAREHOUSE SERVICE

Cambridge, Mass. • Charlotte, N.C. • Chicago, Ill. • Cincinnati, Ohio • Dallas, Texas • Detroit, Michigan • Houston, Texas • Kansas City, Kan. • New Hyde Park, L.I., N.Y. • Los Angeles, Calif. • Louisville, Ky. • Marshfield, Wis. • Milwaukee, Wis. • New York, N.Y. • Port Newark, N.J. • Philadelphia, Pa. • St. Louis, Mo. • San Antonio, Texas • San Francisco, Calif.

Roddiscraft
RODDIS PLYWOOD CORPORATION
Marshfield, Wisconsin

THE FORESTS . . . THE FACILITIES . . . THE EXPERIENCE TO PRODUCE THE FINEST

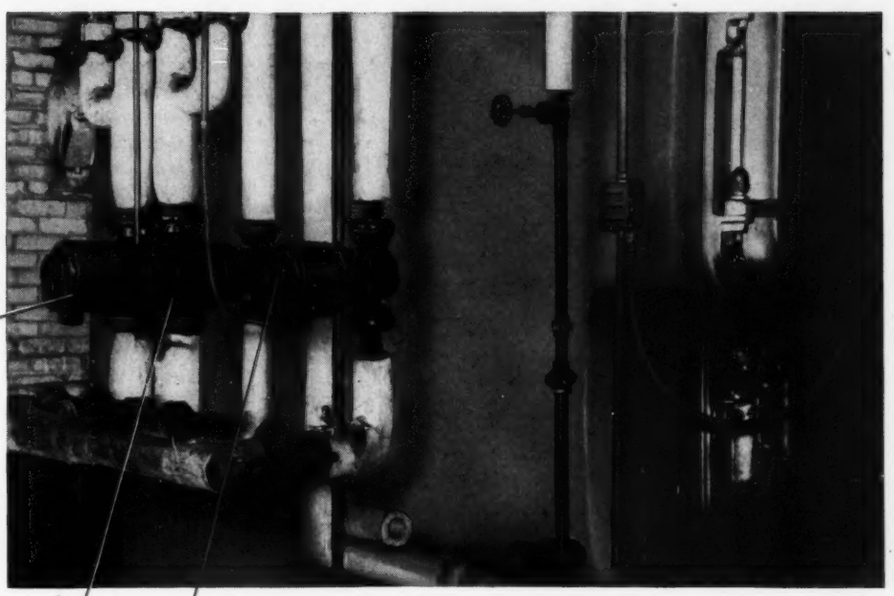
Three different temperatures

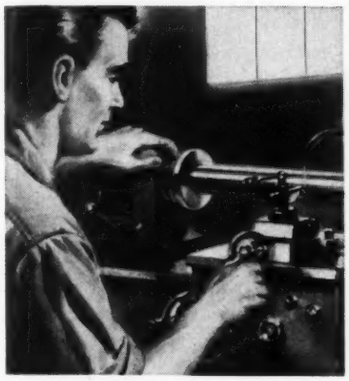
FROM THE SAME BOILER

B&G *Hydro-Flo** Heating

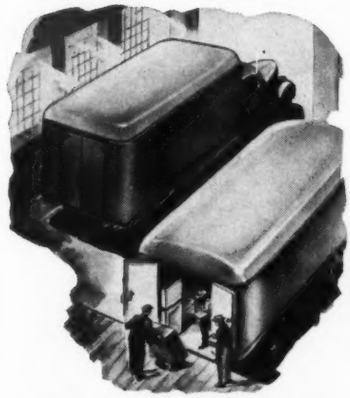


B & G *Hydro-Flo* Heating keeps offices at the proper temperature for sedentary occupations—prevents over and under heating. 72°





Worker efficiency is stepped up by B&G *Hydro-Flo* Heating. Each department can be maintained at the temperature best suited to occupational activity. 68°

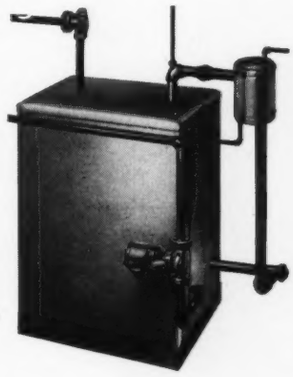


Garages and storerooms need little heat. B & G *Hydro-Flo* Heating saves fuel by keeping such areas at a comparatively low temperature. 50°

Dividing a B & G *Hydro-Flo* System into a number of heating zones permits different temperatures to be maintained in different sections of a building. The advantages are two-fold . . . greater comfort for workers at every level of physical activity and a substantial reduction in heating cost.

B & G *Hydro-Flo* Heating—a forced hot water system—eliminates the usual causes of uneven, wasteful heating. Water as a heating medium can be so closely controlled that every change in the weather is met with a corresponding change in the heat supply. Hence, indoor temperature is maintained uniformly at whatever degree is desired.

Any type of radiant heating units can be used with B & G *Hydro-Flo* Heating—baseboard panels, convectors, radiators, radiant floor and ceiling panels or unit heaters. No complex controls are required—*Hydro-Flo* equipment is amazingly simple and dependable.



For residential application

Hundreds of thousands of homes and apartments today have B & G *Hydro-Flo* Heating. This system provides radiant sunny warmth with all the economy of a controlled heat supply . . . and in addition furnishes an abundance of domestic hot water all year 'round.

Send for catalog of B & G *Hydro-Flo* Heating Products

BELL & GOSSETT
COMPANY

Dept. CJ-32, Morton Grove, Ill.

Canadian Licensee: S. A. Armstrong, Ltd., 1400 O'Connor Drive, Toronto, Canada

*Reg. U. S. Pat. Off.

ART METAL

has developed a lot of new ideas in

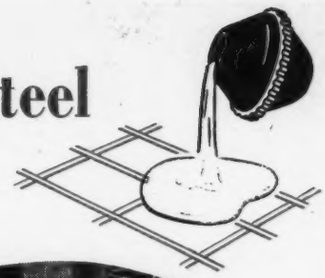
INCANDESCENT LIGHTING



The ACI Code proves it . . .

You don't have to buy so much steel

when you use American Welded Wire Fabric



● Read the American Concrete Institute Code and it will show you how to save steel by specifying American Welded Wire Fabric.

Example:

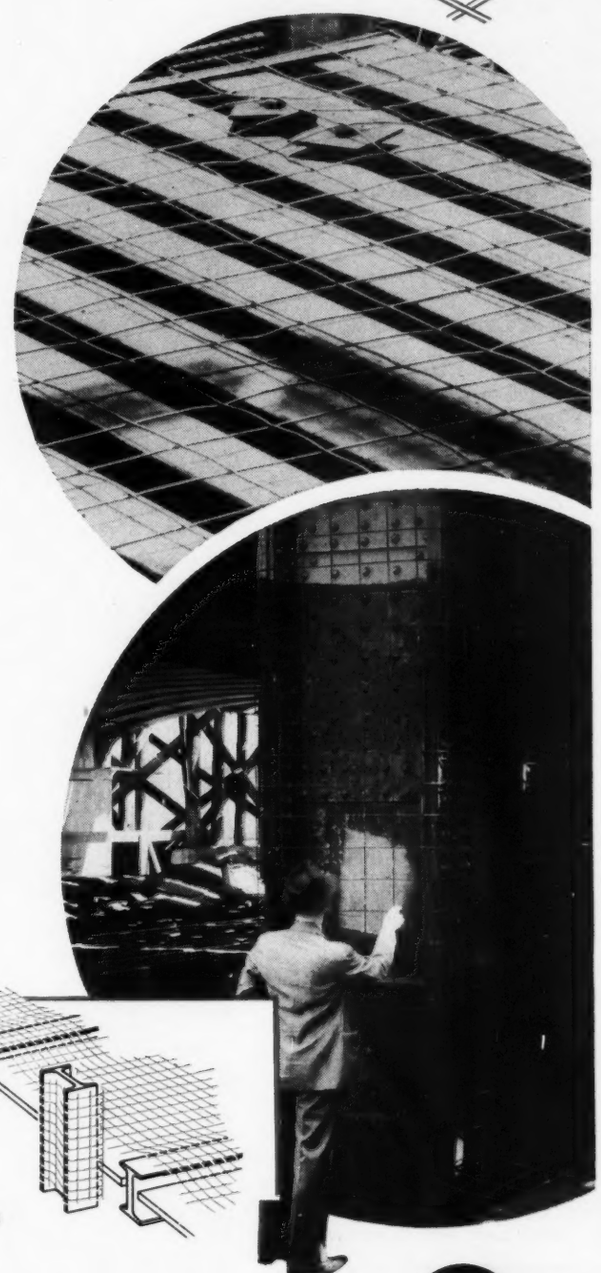
American Welded Wire Fabric is allowed a working stress of 28,000 psi for short span floor construction. That's 40% saving of steel over other types of reinforcing materials. Because the fabric is prefabricated, less labor is required—there is less steel to handle—it takes less time to place—there is less material to transport.

Example:

The specifications for reinforced concrete walls call for minimum ratios of steel area to wall area. If you use American Welded Wire Fabric, you can use 28% less steel area than with other reinforcing materials. You don't have to buy so much steel to get the strength you need.

These figures are impressive. They mean that you save critical steel when you use American Welded Wire Fabric. But just as important is the fact that you save critical labor. American Welded Wire Fabric is so easy to install that you just can't make a real comparison. Take slab construction: You simply unroll the fabric, lap the joints and you're done. No other reinforcement material can be installed so quickly.

Standard sizes of American Welded Wire Fabric are now readily available from jobbers' and dealers' stocks, supplemented by prompt mill shipments to identified projects. Present CMP Regulations assure adequate warehouse stocks of Fabric.



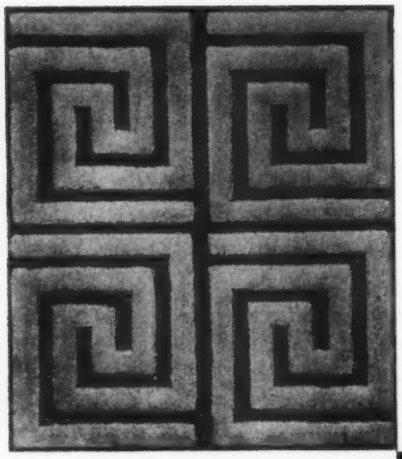
This sketch shows where American Welded Wire Fabric is used in modern concrete buildings. It reinforces walls, floors and roofs, can be draped over beams and girders and wrapped around pillars. Many uses of concrete in irregular structural shapes are made practical by American Welded Wire Fabric reinforcement.

AMERICAN STEEL & WIRE DIVISION, GENERAL OFFICES, CLEVELAND, OHIO
COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO, PACIFIC COAST DISTRIBUTORS
TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA., SOUTHERN DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

Every type of concrete construction needs

U·S·S AMERICAN WELDED WIRE FABRIC
reinforcement

UNITED STATES STEEL



Hospitality at their feet

with those heavenly carpets by Lees

in Philadelphia's magnificent modern apartments

The "style and quality quotient" *of an apartment house—can be* no *higher than the style and quality of its carpets. Install handsome Lees Contract Carpets from the lobby on up. Shown is Lees Glowtuft in key motif, just one of the many lovely Lees Carpets specially woven for long wear and hard traffic. There's a Lees for every purpose and decor in a wide range of colors, patterns and textures. Custom designs for individual interiors. Send for specific information from James Lees and Sons Company, Contract Carpet Division, Bridgeport, Penna., or offices in principal cities.*

JAMES LEES AND SONS COMPANY
BRIDGEPORT, PENNSYLVANIA
MAKERS OF LEES CARPETS AND RUGS
MINERVA AND COLUMBIA
HAND-KNITTING YARNS

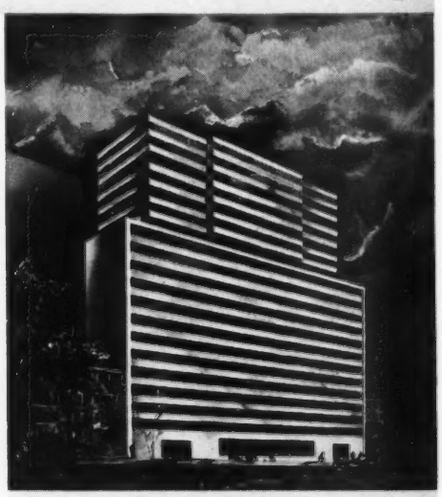
Lees® CARPETS



The lobby of Philadelphia's new Rittenhouse Claridge Apartments is furnished by Gimbel's Interior Decorators with two special Lees Wiltons, Glowtuft and Darlington.

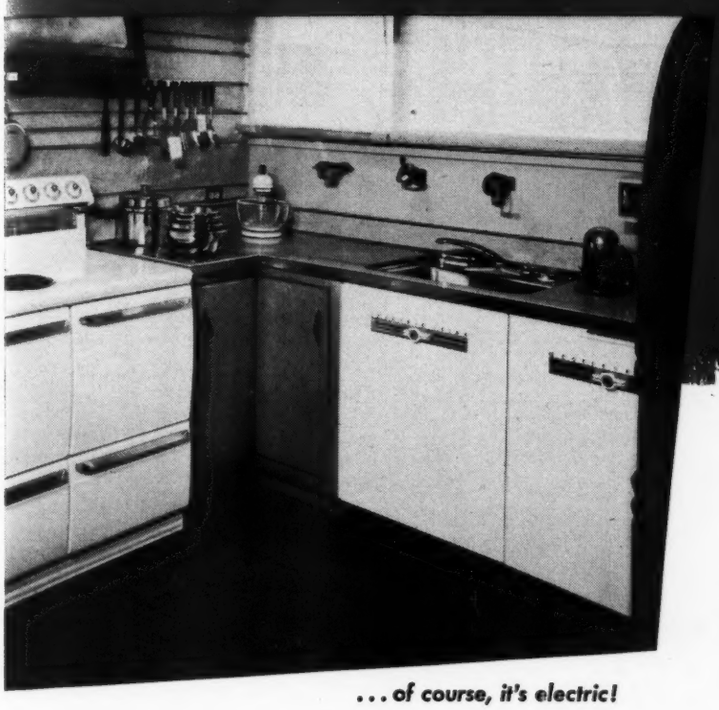


View of the Rittenhouse Claridge where Lees Carpets add luxury to modern decor.



The new Rittenhouse Savoy where model apartments wear Lees Contract Carpets.

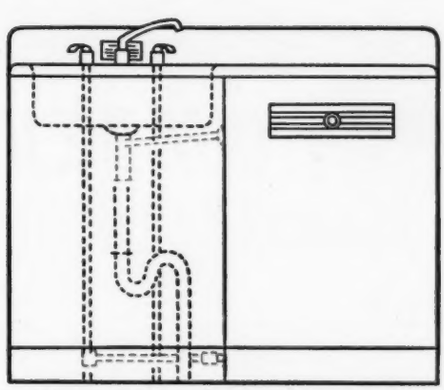
WHY A Westinghouse Dishwasher Simplifies Installation



. . . of course, it's electric!

One Water and One Drain Line Serves Both Sink and Dishwasher

There is no need for separate drain line or trap. The Westinghouse Dishwasher drain is pump operated. Water is discharged through a special Y tail pipe installed in the sink drain line. (See diagram below).



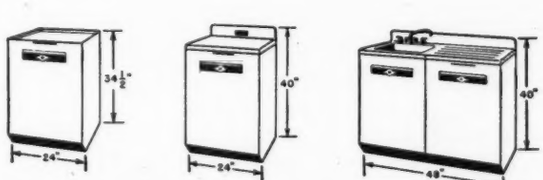
Dotted red lines show only plumbing connections required.



FRONT OPENING—TOP LOADING

The exclusive WASHWELL* rolls out to load, rolls back to wash leaving the counter surface over it undisturbed and always usable. It's super-sized, holds more and larger pieces—more versatile for any family.

*Trade Mark



STANDARD SIZES—The Under-Counter Model fits under standard height counters. The Cabinet Model has its own porcelain counter surface. Both models are only 24 inches wide. The 48-inch wide Electric Sink is available with or without porcelain sink top and bowl, can be equipped with a Westinghouse Waste-Away® Food Waste Disposer.

Westinghouse Electric Corporation
Electric Appliance Division
Mansfield, Ohio

Please send me a Dishwasher Specification Sheet.

Name_____

Street_____

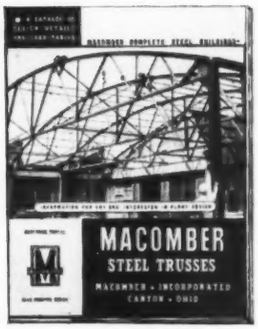
City_____ State_____

AH-2

YOU CAN BE SURE... IF IT'S Westinghouse



STANDARDIZED STEEL BUILDING PRODUCTS



Spanning the wide area with Macomber Bowstring Trusses and designing the complete steel frame with cataloged members combines speed and economy more effectively than any other construction method.

These standardized structural members with ample flexibility for most any need of the designer are in universal demand for industrial, institutional and commercial framing.

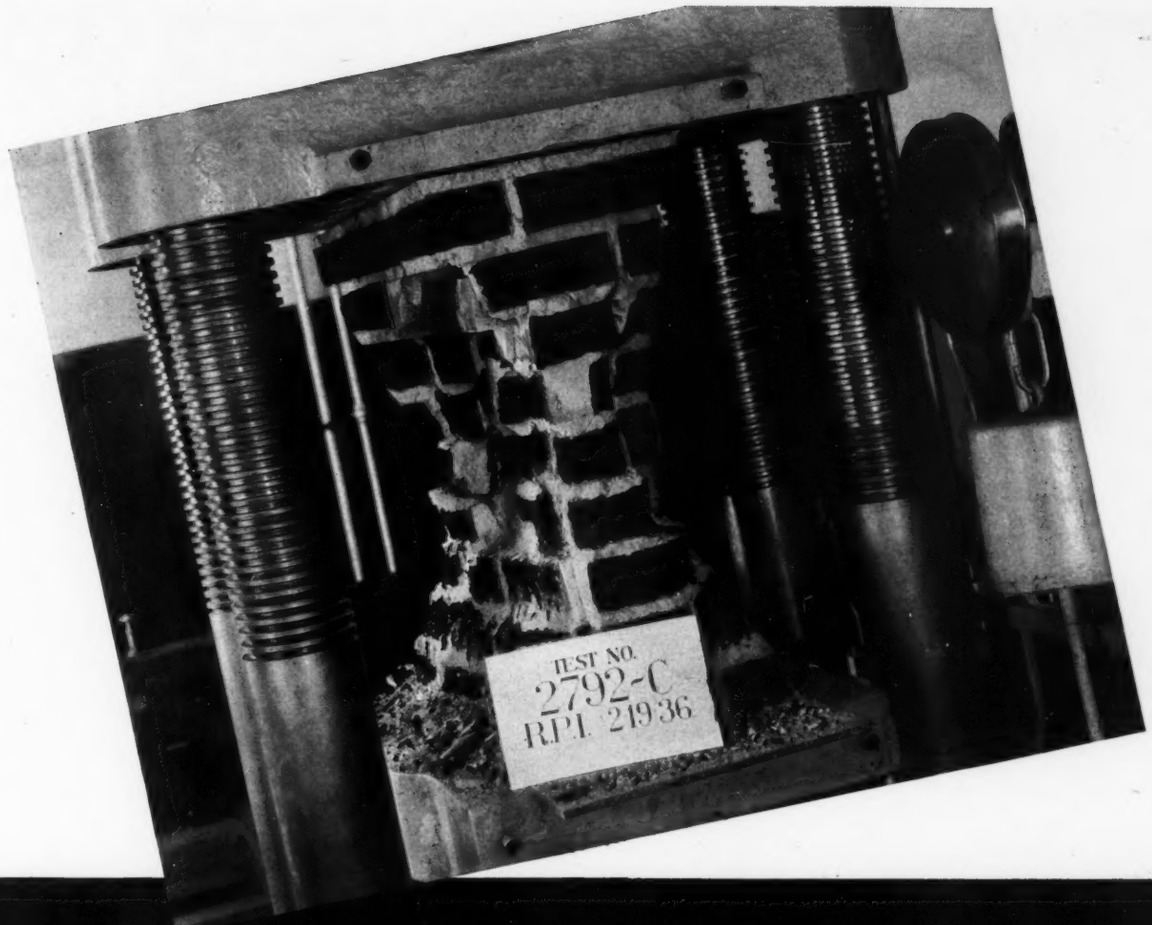
To enable you to utilize the speed and economies of these products more profitably, Macomber has a new catalog of design details being printed. Your request now for this new Truss Catalog will assure a valuable design source for your draftsmen at an early date. Write us.

STANDARDIZED STEEL BUILDING PRODUCTS

MACOMBER • INCORPORATED

CANTON, OHIO

V BAR JOISTS • LONGSPANS • BOWSTRING TRUSSES • STEEL DECK



BRIXMENT

assures stronger walls!

BRIXMENT exceeds the strength requirements for masonry cement (both Type I and II) of the American Society for Testing Materials' Specification C91-49 and the Federal Specification SS-C-181b. Type II is usually specified when high strength is required.

When Brixment mortar is tested in compression between two brick, at 28 days or later periods, the brick usually crack before the mortar fails.

The strength of piers laid with Brixment mortar approaches the strength of piers laid with straight portland cement mortar.



LOUISVILLE CEMENT COMPANY, Incorporated, LOUISVILLE, KENTUCKY



"We have to know that this new mine is going to do its job even after riding for hours under the belly of a plane or being stored long periods in sub-zero temperatures," said R. E. Hightower, chief of the Technical Evaluation Department, Naval Ordnance Laboratory, White Oak, Maryland. The desired temperature and humidity conditions are precisely provided by Worthington refrigeration. Contractor: Arthur E. Magher Co., N. Y., N. Y.

They're Checking Ordnance at 65° Below!

You see, that cylindrical object is a mine. The masks keep faces from freezing as the Navy studies icing effects to be certain that neither ice nor stiffened parts will affect its operation when dropped from a sub-zero atmosphere into the ocean.

These studies are made in the new stainless steel temperature simulation chamber at the Naval Ordnance Laboratory, White Oak, Maryland, where ordnance equipment can be subjected to temperatures from 200 above to 100 below zero, Fahrenheit, with any desired humidity.

The naval laboratory uses a Worthington brine cooling system composed of one centrifugal compressor and four reciprocating compressors to reduce the temperature of the chamber to minus 100 F.

This is but one of many military low-temperature installations where Worthington products are helping to insure that our armed forces get the best equipment in the world.

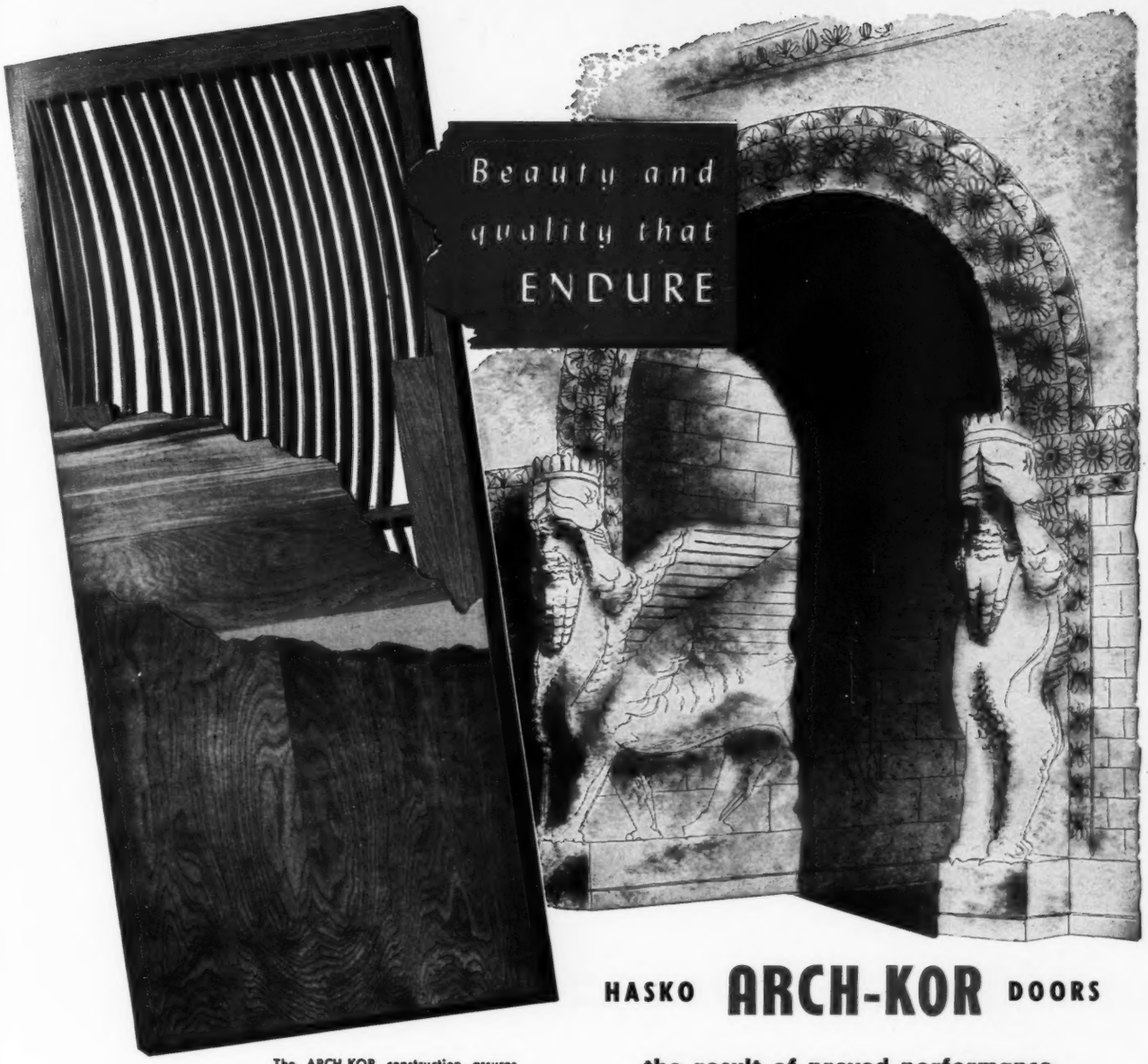
The knowledge and experience which has made Worthington a leader in this field is available to you for any type of air conditioning or refrigeration installation. Consult Classified Telephone Directory for nearest Worthington distributor. Worthington Pump and Machinery Corporation, Air Conditioning and Refrigeration Division, Harrison, N. J., specialists in air conditioning and refrigeration for more than 50 years.

A.1.4

WORTHINGTON

AIR CONDITIONING AND REFRIGERATION

THE MOST COMPLETE LINE... ALWAYS THE CORRECT RECOMMENDATION



The ARCH-KOR construction assures resistance to warping and complete support of the faces of the Hasko doors.

HASKO ARCH-KOR DOORS

the result of proved performance through the use of proved construction principles



Since Neolithic Man's discovery of the principle of the arch a perfection of beauty *and* strength have been added to our structures. Since Haskelite Men utilized the principle of the arch in HASKO ARCH-KOR DOORS, their lasting beauty and enduring strength have created a constantly growing demand, which places them today in a position of top leadership in their field. The highest quality materials and the best in craftsmanship have helped build and maintain the reputations of suppliers of materials who specify and use HASKO DOORS. These are proofs of their worthiness of *your endorsement* and use. *Ask your supplier for HASKO DOORS.* Write for complete information.

Hasko ARCH-KOR and SOLID-KOR Flush Doors are available faced with birch, mahogany, oak, maple, walnut, and gum.

HASKO **HASKELITE MANUFACTURING CORP., Grand Rapids 2, Michigan**

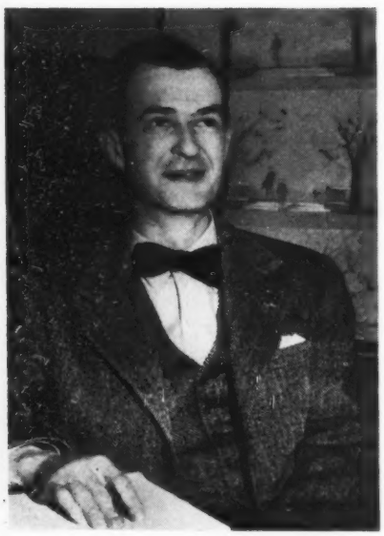
West Coast Agents: Clay Brown & Co., Portland, Ore., and Los Angeles, Calif.

One of the world's largest manufacturers of plywoods, metal clad plywood, and other laminated materials for use in industrial and consumer products.

Architects and Engineers of the

NEUROLOGICAL

tell how they use Sweet's File to



F. Spencer Roach
Harbeson, Hough, Livingston & Larson, Architects
Philadelphia, Pa.

"A great help and time saver"

says F. Spencer Roach

"The Sweet's File in our office is kept in a central location where it is always available to members of our staff. Having the catalogs of hundreds of manufacturers in this handy form for quick reference is a great help and a great time saver.

"We frequently bring Sweet's to our conference table when we discuss the relative merits of similar products. This often results in our calling in the representatives of manufacturers whose products appear to suit our needs.

"Some catalogs in Sweet's are light on information. This doesn't help us, and it doesn't help the manufacturers. As one example of useful information of the kind we like to find in Sweet's, I might mention the roofing catalogs. These are in general very good, both as to technical data and specifications."

"Referred to constantly"

says J. E. Hutchison, of Moody and Hutchison, Consulting Engineers

"As our work on the Neurological Building complemented that of the architects, we referred constantly to the catalogs in Sweet's File to check specified products so that our detail drawings would be exact. Also, we had to select many other items of material and equipment within the scope of our work.

"We like Sweet's File because the catalogs in it are always up-to-date. We don't lose time on discontinued products as is often the case when using individually distributed catalogs of unknown age.

"It would be a great help if all of the manufacturers would list their local representatives in their catalogs in Sweet's, as many now do. It saves time and expense all around when you can telephone instead of writing and waiting."

Sweet's Catalog Service

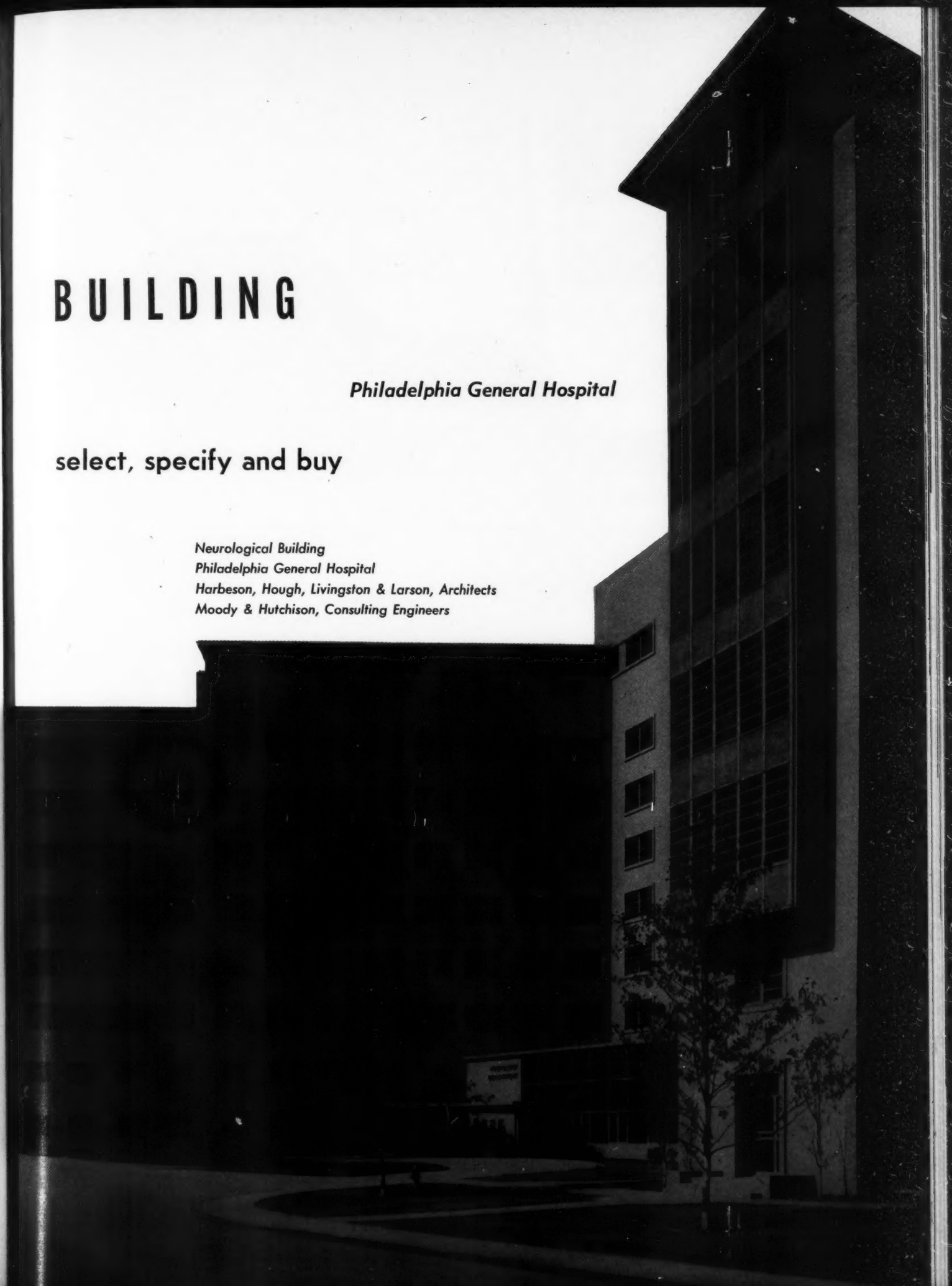
DIVISION OF F. W. DODGE CORPORATION, 119 WEST 40TH STREET, NEW YORK 18, N. Y.

BUILDING

Philadelphia General Hospital

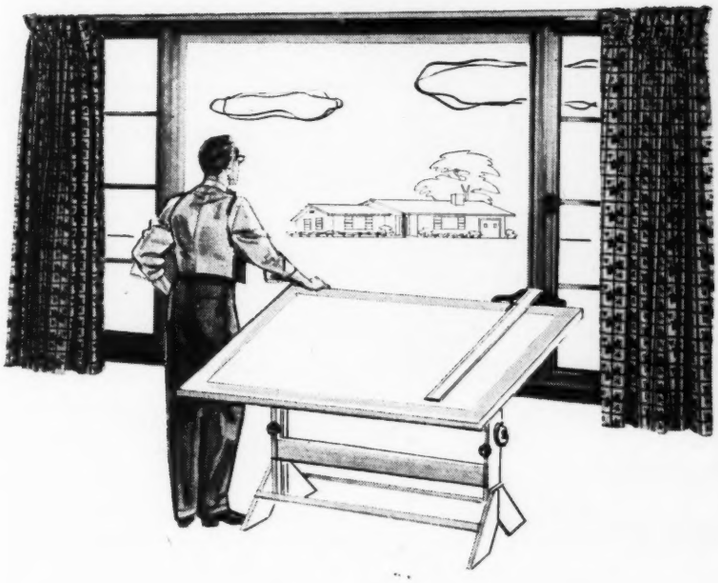
select, specify and buy

Neurological Building
Philadelphia General Hospital
Harbeson, Hough, Livingston & Larson, Architects
Moody & Hutchison, Consulting Engineers

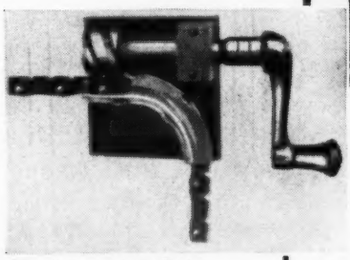



Keystone System of Stucco Application
Plaster Reinforcing
Stucco Reinforcing
Overcoating Reinforcing
Corner and Joint Reinforcing
Simulated Stone Reinforcing
Terrazzo and Tile Underbed Reinforcing
Economical, easy to handle, Keymesh provides strength, attractive appearance and durability for exterior or interior reinforcement of plaster or concrete—for commercial or residential buildings of all types. Write for complete information.
Keymesh
Keystone Steel & Wire Company
Peoria 7, Illinois

THE WINDOW THAT LOOKS *to the future*



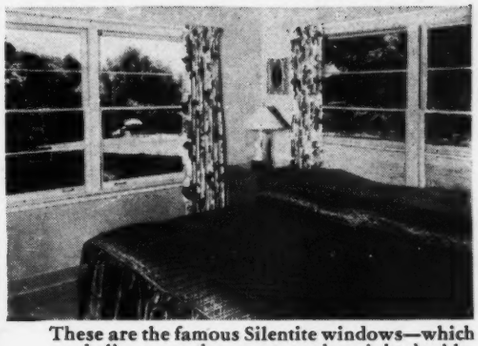
There is one type of window that has never stood still in offering important improvements and advantages to you and your clients. It is Curtis Silentite—the window that is constantly being studied and tested to improve still further its ease of operation, weather-tightness and other features that provide increased value. At the right are some reasons why:



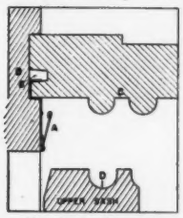
Silentite casement adjuster.

Curtis makes a complete line of architectural woodwork and kitchen cabinets for the modern home. Make your next house "all Curtis."

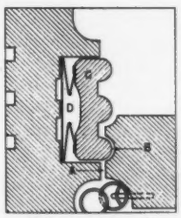
1865 CURTIS WOODWORK
SILENTITE PRE-FIT
the *Insulated* window



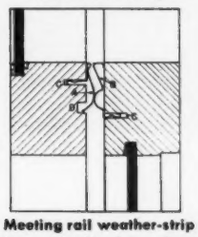
These are the famous Silentite windows—which we believe are the most weather-tight double-hung windows made. A glance at their construction will show you why.



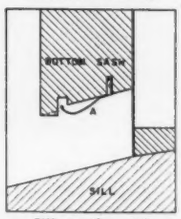
Head weather-strip



Side weather-strip



Meeting rail weather-strip



Sill weather-strip

These details show the built-in weather-stripping of the Silentite double-hung wood window. The sliding bars are supported by double "Z" spring leaf-type weather-strip, providing uniform pressure on both sides of the window, yet permitting unusual ease of operation. The Silentite spring suspension eliminates weights and cords. Spring leaf weather-strips are used at head, meeting rail and sill to provide complete protection.



Silentite wood casements can cut total heating cost in the home as much as 16%. Silentite casements are supplied with insulating glass and screens. Operation is exceptionally easy—the adjuster provides 15 times greater opening pressure than the lever type. No inside projecting hardware—no hardware visible outside when sash is closed. Several sash styles are available. These are one-light casements.

Curtis Companies Service Bureau
AR-2 Curtis Building, Clinton, Iowa
Gentlemen:
I want to know more about Curtis Silentite Windows. Please send me your free window booklet. I am ( ) architect, ( ) contractor ( ) prospective home builder, ( ) student. (Please check above)

Name.....

Address.....

City.....*State*.....

YORK *Unitary* AIR CONDITIONING



Tenants of the world's first fully air-conditioned skyscraper apartments—Philadelphia's 25-story Rittenhouse Claridge and 20-story Rittenhouse Savoy—select their own weather with York Unitary Air Conditioning.

USER ADVANTAGES

- Personal weather control
- All air filtered
- Ventilation air quantity adjustable from 0% to 100%
- Year-round conditioning
- Quiet operation
- Freedom from outside noises
- Adaptable to office partition changes
- Positive circulation and uniform distribution of air

Saves time in planning and designing!

Saves cost in installation and operation!

York Unitary Air Conditioning combines the advantages of both central system and packaged conditioner. The result is multi-room, multi-story air conditioning with lower first costs . . . lower operating costs . . . lower installation costs . . . and maximum user satisfaction.

York Unitary Air Conditioning heats in winter . . . cools and dehumidifies in summer . . . filters, ventilates and circulates all year 'round. The user tailors the weather to his taste . . . instead of being dependent on a fixed, centralized system.

Knotty planning, designing and installation problems are eliminated. Minimum space is required for installation, and in both rental area and engine room. Only three small pipes are needed—water supply and return, and drain. Since the only central system is water supply, air handling equipment is not required.

Consult your nearby York Representative today (he's listed in your Classified Directory) or write York Corporation, York, Pennsylvania.

OWNER ADVANTAGES

- Quick, easy and economical installation
- Economy in initial, owning and operating costs
- Only 3 pipes required —space saving
- Complete filtering of all air circulated reduces cleaning and redecorating costs
- York Unitary Air Conditioners may be installed to provide heating initially and cooling added later
- Outside air plenum simplifies ventilation air connection
- Negligible maintenance— no disturbance to tenants

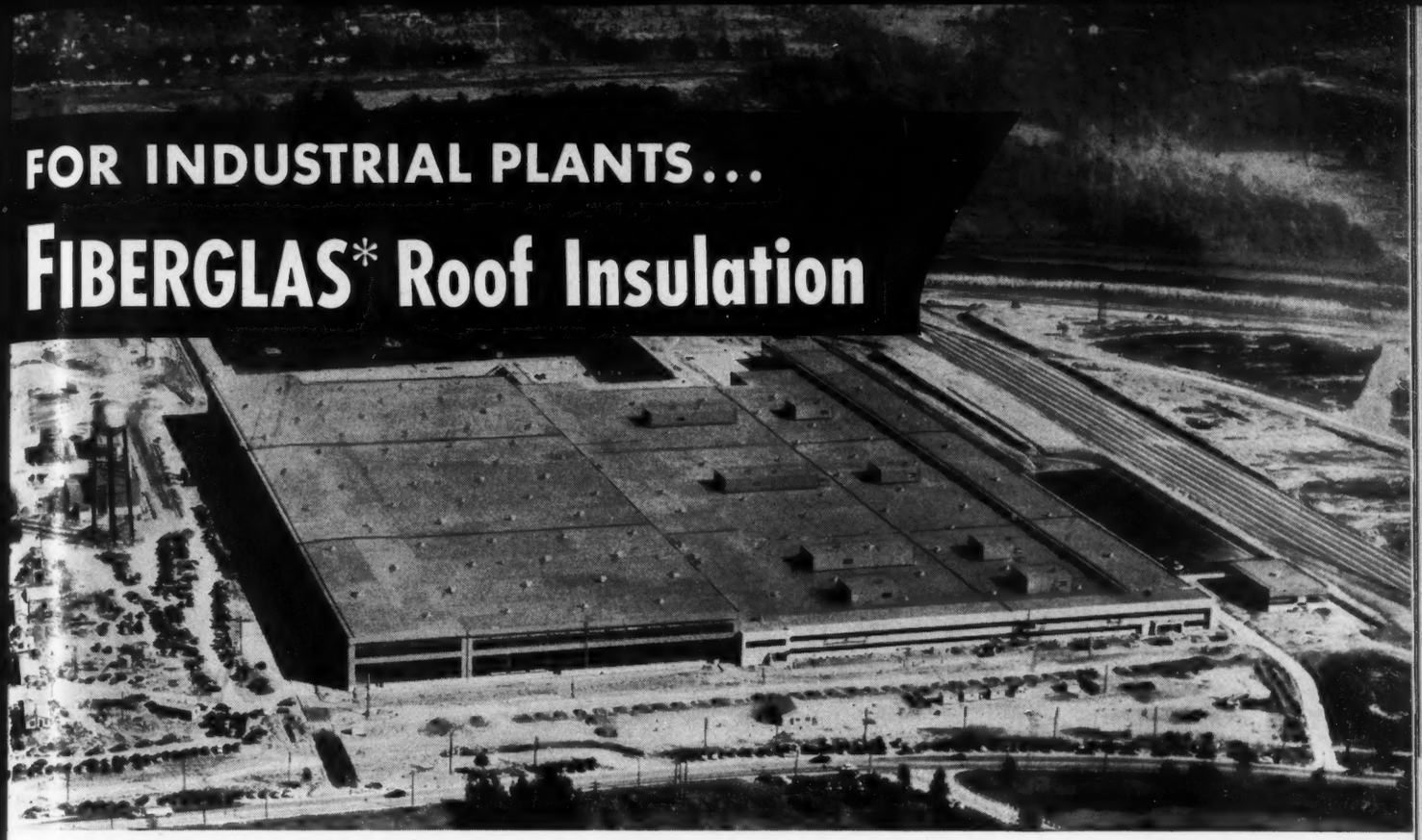
York refrigeration air conditioning

The big advances come from YORK

Headquarters for— **Refrigeration and Air Conditioning**

FOR INDUSTRIAL PLANTS...

FIBERGLAS* Roof Insulation



It's low in thermal conductance

It's long lasting... It's Economical

JOB DATA ON ANOTHER FIBERGLAS INSULATED ROOF

Building: FORD MOTOR COMPANY—Body Stamping Plant, Hamburg, N. Y. (Buffalo)

Architect: Albert Kahn Associates.....Detroit

General Contractors: Darin & Armstrong.....Detroit
Bryant & Detwiler Co.....Detroit

Roofing Contractor: Arrow Sheet Metal Works, Inc.....Buffalo

Roof Deck: Steel Deck

Roof Insulation: Fiberglas Roof Insulation—approximately 1,000,000 sq. ft. of 1" thick material

OWENS-CORNING
FIBERGLAS
ROOF INSULATION

*Fiberglas is the trade mark (Reg. U. S. Pat. Off.) of the Owens-Corning Fiberglas Corporation for a variety of products made of or with fibers of glass.

Low Thermal Conductance—When you specify the heat conductance required for roof insulation you make unmistakably clear the degree of heat protection you wish. We'll gladly certify to the low "C" values of Fiberglas Roof Insulation as shown:

Thickness:	½"	¾"	1"	1¼"	1½"	2"
Heat Conductance:	.50	.33	.25	.20	.17	.13

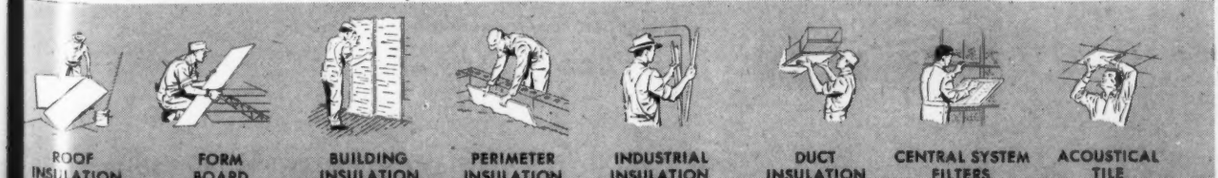
Long Lasting—Will not rot or decay, swell or shrink—fibers of glass are unharmed by possible dampness. Will not deteriorate from exposure to either the elements or normal roof traffic. Durability and low maintenance costs are assured.

Competitively Priced—For equal heat resistance its cost, installed, usually equals and in some instances runs below the comparable cost of less durable roof insulations. Light in weight, easy to cut and handle, it is rapidly installed by standard methods.

With rapid installation and conservation of fuel again gaining in importance, you can specify Fiberglas Roof Insulation with confidence. For complete information write for "The Design of Insulated Roofs" (a 36-page manual) or refer to Sweet's Files—Architectural.

Owens-Corning Fiberglas Corporation, Dept. 68-B, Toledo 1, Ohio.
Branch Offices in Principal Cities.

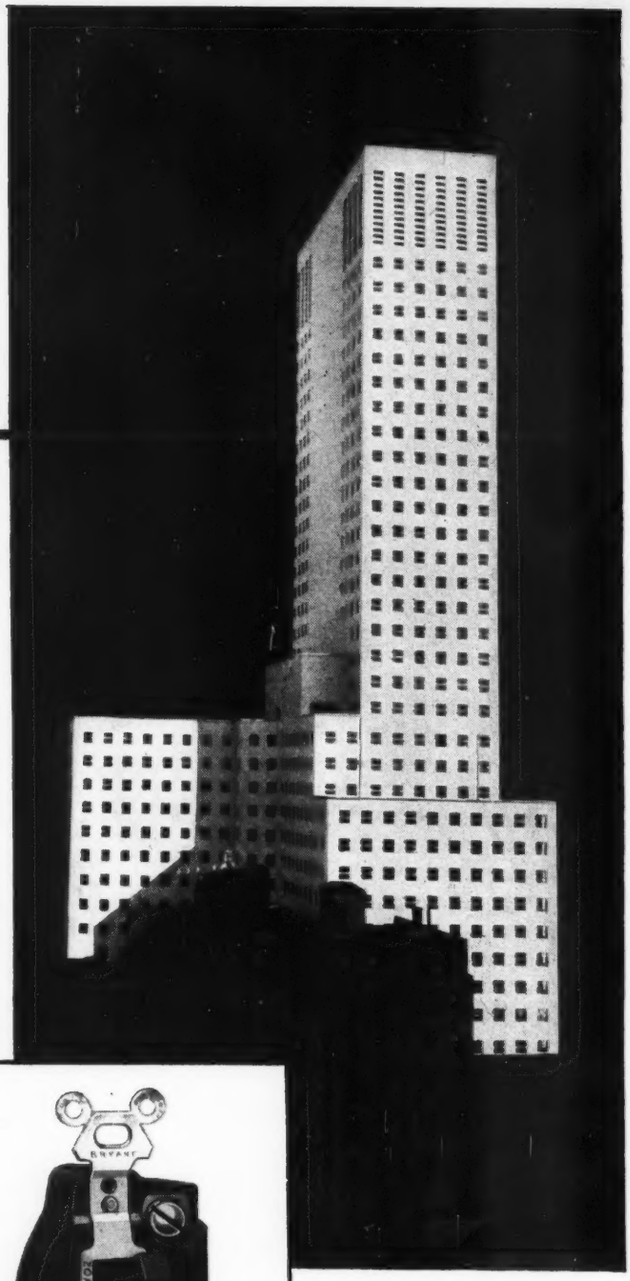
***WRITE* FOR FIBERGLAS DESIGN DATA**





In the

Chrysler Building East



THE ANSWER IS
BRYANT
WIRING DEVICES

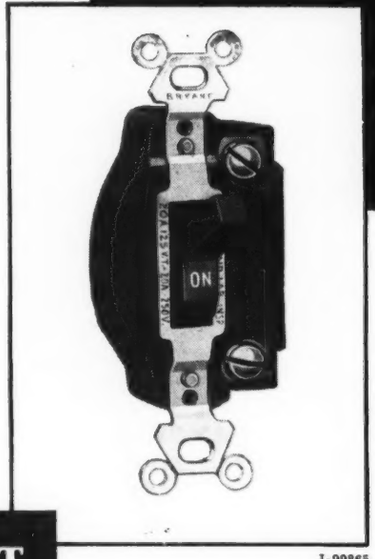
NEW LANDMARK TO USE BRYANT DEVICES

What's behind the selection of Bryant wiring devices for a building like this? Quality? Performance? Reputation? An emphatic "YES" to all three questions . . . because Bryant for over 60 years has maintained quality and good performance which means on-the-job dependability — this is a "must."

In the new, 32 story Chrysler Building East, the Bryant 5861 line of 20 Ampere flush tumbler switches was specified and installed to assure long, dependable service to meet the severe conditions encountered under today's increased electrical loads.

The 5861 is rugged, easily installed, and its shallow cup, 1-15/32" deep, permits installation in conventional switch boxes. Large, well-recessed terminal binding screws make for easy wiring. The 5861 is available in single pole, double pole, three-way and four-way types with brown and ivory handles and can be furnished with lock and momentary contact features. Meets all specifications.

Listed as Standard by Underwriters' Laboratories, Inc.



J-99865

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Specify Bryant Quality Devices from Your Electrical Distributor

BRYANT
SUPERIOR WIRING DEVICES

THE BRYANT ELECTRIC COMPANY
Bridgeport 2, Connecticut
CHICAGO • LOS ANGELES

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added *Beauty*





It's the same room in both cases protected by a Viking Sprinkler system . . . the general offices of the Chicago Merchandise Mart . . . Nothing is changed . . . except the sprinkler heads. Note the added attractiveness and unmarred symmetry of this room after the change to *Viking Flush Type Sprinklers.* Viking Flush Type Sprinklers blend quietly with any room design or motif. They are unexcelled from the standpoint of design . . . unexcelled from the standpoint of water distribution.

The Viking Flush Type Head exemplifies the entire Viking Sprinkler line . . . is visual evidence of the farsighted engineering, the up-to-date practical engineering that goes into every piece of equipment in the Viking Automatic Sprinkler line . . . the most complete line in the industry.

There is a Viking representative near you . . . ready to help you with the design and installation of a modern Viking fire protection system for your next building. You'll find that his staff of engineers, his experienced, full-time installation crews and his completely stocked warehouse, *located in your area,* will make the design and installation of a sprinkler system quick and easy for you. Contact him, today.



Write for your copy of "Fire and Your Business" . . . facts on how a Viking Sprinkler System can protect your buildings from fire; forever.

the Viking corporation

HASTINGS, MICHIGAN

TONCAN IRON VENTILATING DUCTS

"Still in excellent condition"

after 30 years hotel service



SOVEREIGN HOTEL, CLEVELAND, OHIO
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I. Margolin, General Contractor.
National Cornice Company,
Sheet Metal and Ventilating Contractor.

30 years! That's not surprising when the sheet metal used is Toncan Copper Molybdenum Iron. This alloy iron *consistently outlasts other ferrous metals in its price class*—because it stubbornly resists rust.

Toncan Iron is made to give long, trouble-free, low-cost service in all types of sheet metal work. Its basic ingredient is highly-refined open hearth iron. To this is added copper—*twice as much as in copper-bearing steels or irons.* Then molybdenum is added—just the right amount to bring out the full effect of this double dose of copper.

Thus, the high rust-resistance of Toncan Iron is not merely a surface quality. It goes all the way through the metal—and is unaffected by cutting, punching, forming, welding or other fabrication.

Best of all, the cost of this alloy iron is remarkably low—especially in cost per year of trouble-free service. You'll find more about it in Sweet's File . . . and in interesting literature which we have prepared for you. Write us.

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GENERAL OFFICES • CLEVELAND 1, OHIO
Export Department: Chrysler Building, New York 17, N. Y.

TONCAN COPPER MOLYBDENUM IRON

FOR MORE THAN 40 YEARS . . .
HIGHEST RUST-RESISTANCE OF ALL
FERROUS MATERIALS IN ITS PRICE CLASS

Republic REPUBLIC STEEL

TONCAN® COPPER MOLYBDENUM IRON

—for ducts, gutters, conductor pipes, roofing, siding, tanks, ventilators, skylights, hoods and other sheet metal applications requiring rust-resistance—and for corrugated metal drainage products.

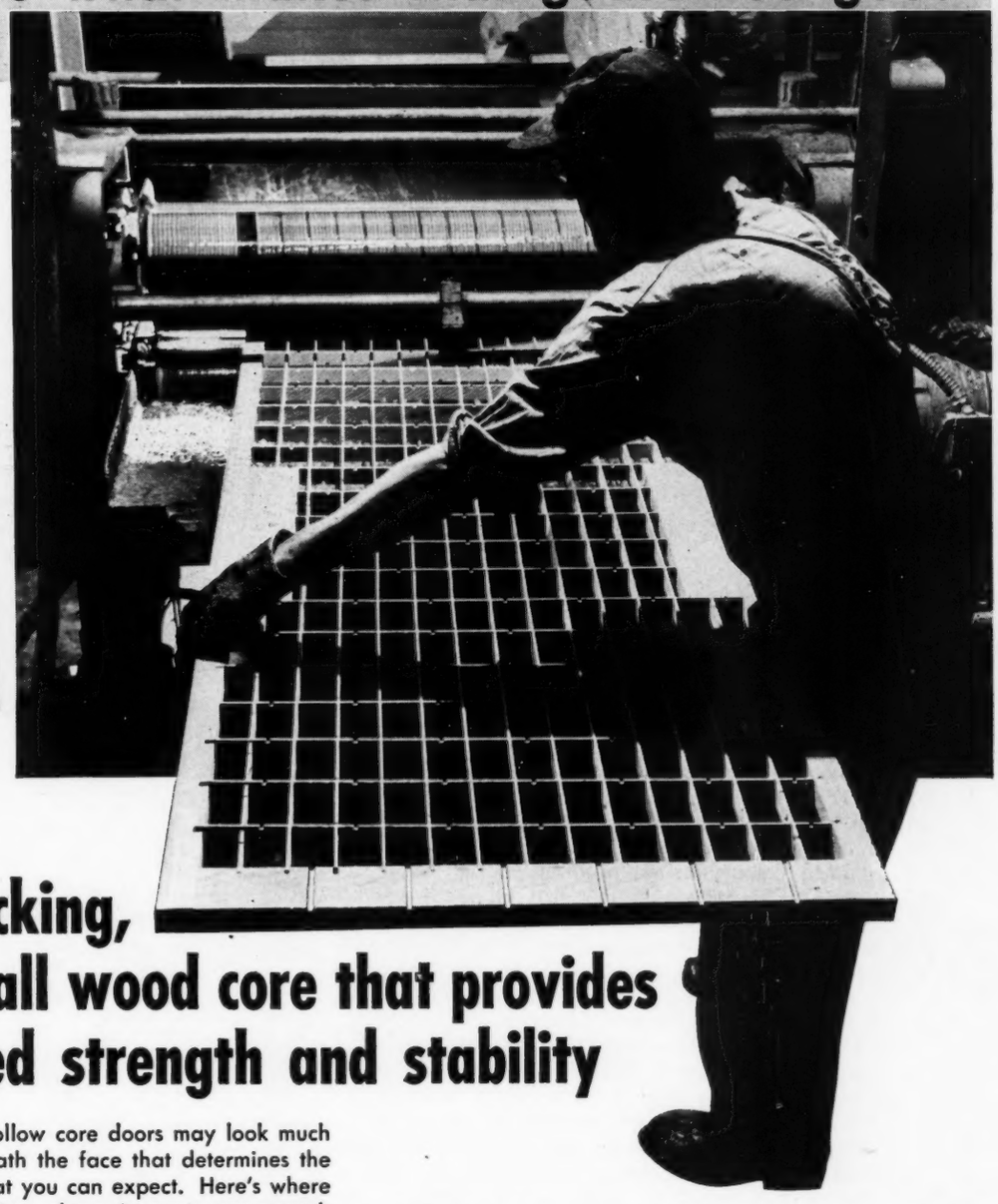
PAINE REZO DOORS

T. M. REGISTERED

are *Unconditionally Guaranteed*

and here's what makes that guarantee good





the interlocking, ventilated all wood core that provides unduplicated strength and stability

On the surface, flush hollow core doors may look much alike, but it's what's beneath the face that determines the service and satisfaction that you can expect. Here's where the superiority of Paine Rezo doors is most pronounced; for nowhere else will you find equal dimensional stability, nor such lightness in weight combined with great structural strength.

For these reasons architects and contractors everywhere have installed more than four million Paine Rezo doors in buildings of every type. No other hollow core door has been so widely endorsed, so thoroughly time-proved. Remember, when you specify Paine Rezo doors your satisfaction, now and in the future, is *unconditionally guaranteed.*

See SWEET'S catalog — or write for an illustrated data bulletin.

Manufactured by the

PAINE LUMBER CO., LTD. *Oshkosh Wisconsin*

ESTABLISHED 1853

Another Case of COPPER WHERE IT COUNTS

MOHAWK GARDENS, ROME, N. Y.

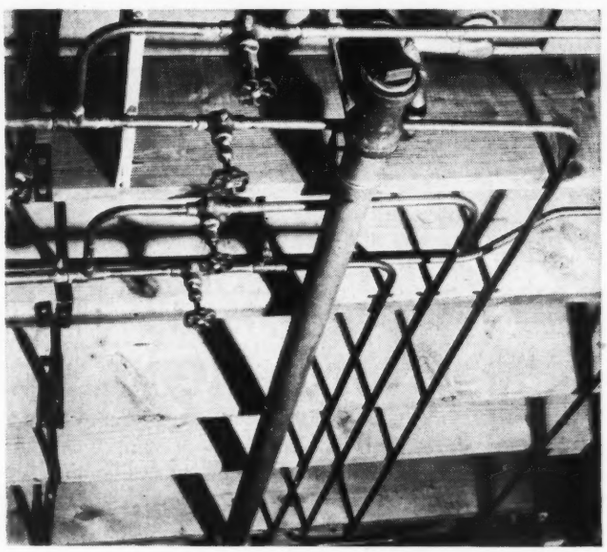


THE very scarcity of copper has served to point up the many merits of this metal better than anything we might say about it. For, when architects, builders and contractors have tried to find a substitute, they soon discovered many places in building construction where there just isn't any substitute. And they don't hesitate to tell us so.

Two mighty important copper spots are the heating and plumbing lines. That's why Revere Copper Water Tube was used for the entire heating system and for the hot and cold water lines in the plumbing system at Mohawk Gardens . . . the owners were building for permanency.

Although quantities are necessarily limited you can still use Revere Copper Water Tube for domestic hot and cold water lines, underground service lines, industrial processing and for gas equipment.

See your Revere Distributor. He will advise you of the availability of materials and, in the event you wish to discuss your technical problems, put you in touch with Revere's Technical Advisory Service.



NO WIDE OPEN SPACES are needed for wrench swinging when Revere Copper Water Tube is used. It is easily joined with solder or compression fittings, and requires fewer of these fittings because it is easily bent and comes in 60'-length, soft-temper coils. It also is available in hard and soft tempers in straight lengths. Note how *neat* an installation is made possible with Revere Copper Water Tube, too. Shown is part of the 31,000' of Revere Copper Tube used for heating and the 24,240' used for plumbing in Mohawk Gardens, Rome, N. Y. Architect, Harold G. Rice; Plumbing and Heating Contractor, O'Shea Supply Company; Builder, A. H. Pearsall, Inc. . . . all of Rome, N. Y. Revere Copper also was used to flash the roofs and windows, as well as for the gutters and downspouts.

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SEE "MEET THE PRESS" ON NBC TELEVISION EVERY SUNDAY



Architects: Olson & Urbain, Chicago

Best light for protection

FILTERED DAYLIGHT

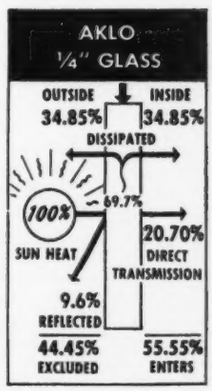
Look at the daylighting in this plant. Note how evenly it is distributed. Note the absence of glare. This is a window wall of Blue Ridge Frosted *Aklo** Glass. It materially reduces incoming sun heat. It provides ideal light for critical seeing and helps create more comfortable working conditions.

These benefits explain why you see this blue-green glass in today's modern plants—plants built for efficiency, comfort and safety.

Ask your L·O·F Glass Distributor for a Radiometer demonstration to show how *Aklo* Glass reduces glare and sun heat. Or mail the coupon.

LESS GLARE. *Aklo* Glass acts much like sunglasses in providing a soft blue-green light. It filters out the rays most tiring to the eyes. Frosted *Aklo* diffuses daylight, softens the harsh bright spots of direct sun or bright sky. That means more restful, safer seeing.

LESS SUN HEAT. *Aklo* Glass not only looks cooler—it actually keeps rooms cooler because it is heat-absorbing glass. Frosted *Aklo* ¼" Glass shuts out as much as 44% of the sun's heat. Non-heat-absorbing glass lets 88% come through. *®



FREE BOOK on Reduction of Sun Glare and Heat

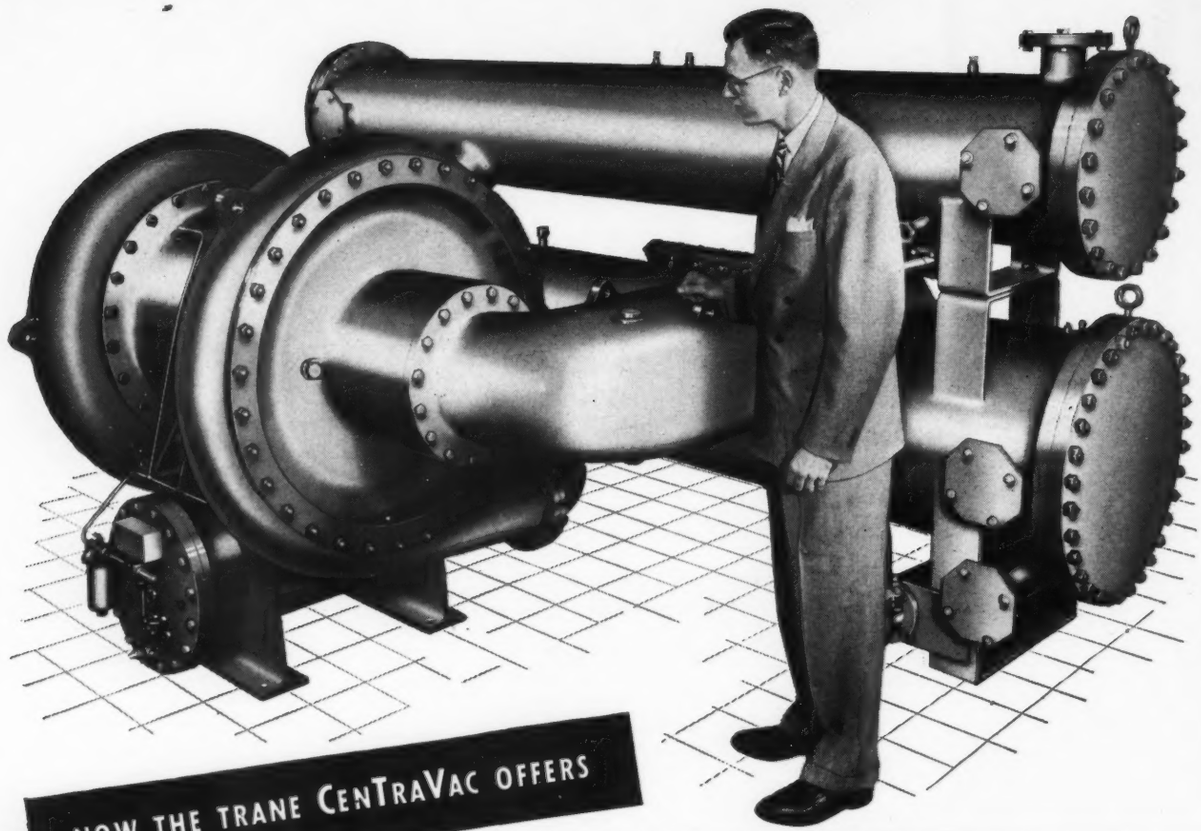
BLUE RIDGE
***AKLO* GLASS**



Blue Ridge Sales Div., Libbey-Owens-Ford Glass Co.
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☐ Please send me your book "Filtered Daylight".
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NOW THE TRANE CENTRAVAC OFFERS

Centrifugal Refrigeration for the Small Job, Too

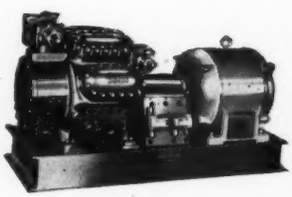
Now air conditioning installations as small as 45 tons can have all the advantages of centrifugal refrigeration. For years the flexibility, the safety and the economical operation of the centrifugal compressor were limited to the larger job. But Trane has changed all that with the CenTraVac.

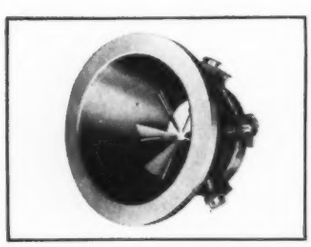
The CenTraVac is a completely self-contained, hermetically sealed water chilling unit. Light in weight—small sizes weigh under 15,000 pounds. It can be installed in basement or penthouse, in new or existing buildings. No special bases are necessary. Only simple water and electrical connections are required. First costs are surprisingly low. Push button operation eliminates the need for extra attendants —thus, maintenance costs are kept at a minimum.

Operating efficiently over a range from 100 to 10% of rated capacity, the Trane CenTraVac is ideal for the small job—industrial offices, precision manufacturing areas, small theatres, post exchanges. Yet, the CenTraVac is equally at home on the larger installations. It is available in five sizes to 190 tons. Single or multiple installation may be made. For more details, contact the Trane representative in your area or write for CenTraVac Bulletin S-399.

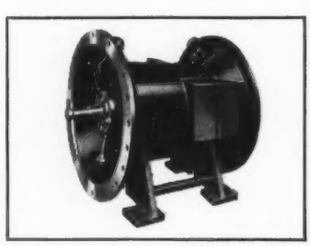
Trane Builds Both!

For applications in the 10 to 50 ton range, Trane manufactures a complete line of reciprocating compressors and condensers. These smooth, quiet operating units pack maximum capacity in a minimum of space.

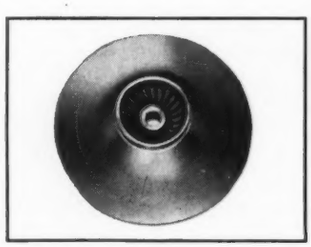




Saves Power—The exclusive Trane capacity control feature. Variable inlet guide vanes permit the unit to operate down to 10% of its rated capacity by regulating the flow of refrigerant into the impeller.



No Shaft Seals—Impellers mounted on a double extended shaft motor are hermetically sealed in this unit. Air, enemy of capacity, is sealed out. Maximum effectiveness is maintained at all times.



High Efficiency—True radial blade impellers produce flat characteristic curve—so desirable in centrifugal compressors. Curved buckets at each blade entrance also contribute to high efficiency.

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OF HEATING, VENTILATING AND
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MODERN DOOR CONTROL BY *LCN* · CLOSERS CONCEALED IN DOOR

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LCN CATALOG 11-E ON REQUEST OR SEE SWEET'S • LCN CLOSERS, INC., PRINCETON, ILLINOIS



WHEN THE WORD COMES TO . .

STEP ON IT!

let Barrett SPEED your Roofing Jobs!



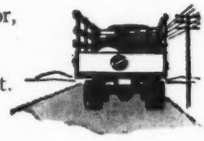
The urgency of America's defense program calls for a lot of speed on the part of American industry. And for a lot of new roofs, too! New roofs on new plants . . . and new roofs, or repairs, on old plants, as well.

Nearly 100 years of experience in meeting roofing demands of every kind have fitted Barrett to give you the world's longest-lasting built-up roof in the shortest possible time. For Barrett *speeds* your roofing jobs in 4 important ways.

1 **BARRETT SPEEDS** specifications. Ready at hand are Barrett time-tested, scientifically calculated application specifications for almost every built-up roofing problem. These are so foolproof that Barrett Specification* Roofs can be bonded for 20 years, and generally last much longer. Approved by the National Board of Fire Underwriters—Class A.



2 **BARRETT SPEEDS** deliveries. Strategically located supply points enable us to rush materials to your Barrett roofing contractor, and to your job when they are needed. Barrett does not have to rely on outside sources of supply for roofing pitch and felt. Because Barrett Specification* pitch and felt are made in our own factories, production can be controlled to meet demands. Your Barrett roofer can be sure that he will get the materials he wants when he needs them.



3 **BARRETT SPEEDS** application. The Barrett Roofer can be sure that roofing materials will be of uniform high quality. Application goes smoothly because there is no defective felt or pitch to interrupt and slow down operations. No time lost on the job!



4 **BARRETT SPEEDS** you the finest possible roof. Skilled workmen make for fast jobs. Barrett Approved Roofers have had many years of practical experience, plus well-trained manpower, plus Barrett engineering help, to assure you the finest possible roofing job in the shortest possible time.



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In Canada: The Barrett Company, Ltd., 5551 St. Hubert St., Montreal, P. Q.

Barrett Specification Roofs*

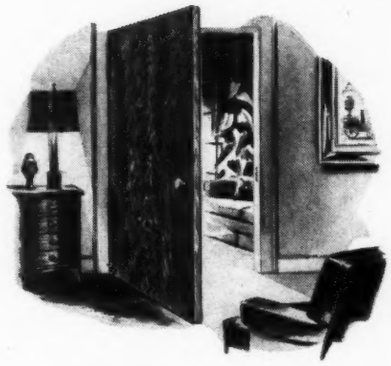
*Reg. U. S. Pat. Off.

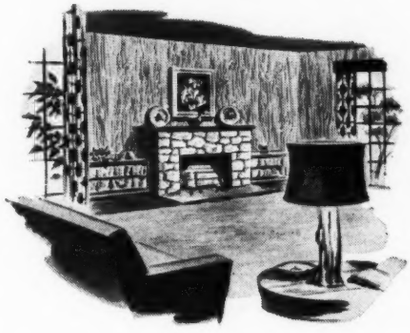
But don't wait until you're up against it before ordering necessary roofing work. Call in a Barrett Approved Roofer today, or write us.

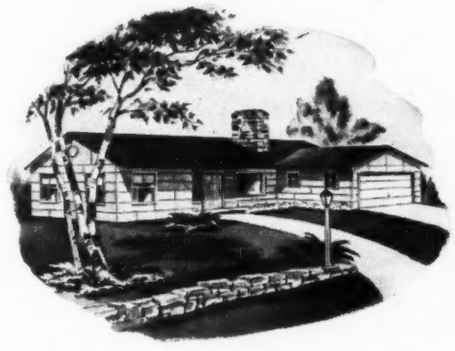
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ATLAS PANELS and ATLAS DOORS

Every Atlas Plywood product is always exactly as graded . . . . . *or better*





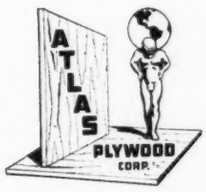


Atlas is one of the world's largest makers of plywood. We make every grade, type and size. We serve every group of plywood users. The fields served vary as widely as the architectural, the builder, the industrial designer, the furniture manufacturer, the trailer manufacturer, those who build with concrete, the user of plywood containers, shipping cases and barrels, the cabinet maker.

The significance is this . . . Since we serve every field, you can know that every Atlas Plywood product is always exactly as graded—or *better*. Any plywood or veneer that does not fully measure up to a given specification, is immediately diverted to some other use it can fully serve.

Plywood is bought for some specific degree of strength—or for beauty—or for both. When you specify Atlas, you can count on getting the exact combination you require. You can count on receiving full value—the quality that safeguards your specification.

Let us send you illustrated literature on Atlas (hard and soft wood) Panels—Architectural Grades, Journeyman Grades, Utility Grades and Concrete Form Grades. And on Atlas Flush Doors — both solid core and hollow core. Kindly address your inquiry to Department 43.



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Northwestern Mutual Building, Los Angeles; Richard J. Neutra, architect.

Three Types of Mississippi Glass Selected For Design of Contemporary Northwestern Mutual Office Building



A translucent partition of Structural Corrugated glass by Mississippi highlights building interior.

The smart design of this fine, contemporary structure takes fullest advantage of the properties of gleaming glass, the modern material, to achieve an overall feeling of warmth and unity that is as utilitarian as it is beautiful.

Translucent Mississippi Factrolite in the facade effects a striking, subdued contrast in the exterior and floods upper floors with softened daylight.

A unique separation with a practical partition of Structural Corrugated Glass helps keep the interior aglow with "borrowed light." These modern partitions are easier to erect and maintain than conventional materials and avoid that "closed in" feeling . . . give an atmosphere of spaciousness and friendliness.

More natural illumination for the interior is provided by skylights glazed with Mississippi Smooth Rough Wire Glass selected for its properties of strength and diffusion.



Leading architects and designers everywhere select glass by Mississippi. Available in a wide variety of patterns wherever quality glass is sold. Listed in Sweet's Catalogue.

MISSISSIPPI *Glass* COMPANY

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NEW YORK • CHICAGO • FULLERTON, CALIF.

Specify Mississippi Glass and make daylight a part of your plan. Send today for literature and free samples.

WORLD'S LARGEST MANUFACTURER OF ROLLED, FIGURED AND WIRED GLASS

still another state office goes Q-Floor



Tennessee State Office Building, Nashville, Tenn.
Hart & McBryde—*architects*
Angus Jessup—*structural engineer*
I. C. Thomasson—*mechanical engineer*
Stanley G. Simm—*electrical engineer*
Creighton & MacDonald—*builders*

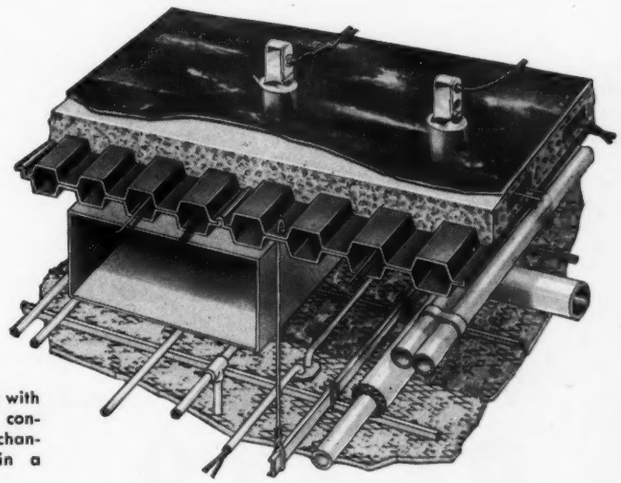
More than 340,000 square feet of Robertson Q-Floor are going into the State Office Building at Nashville designed by Hart & McBryde. And, every exposed square foot of floor can be tapped for an electrical outlet.

The cells of Q-Floor (the steel subfloor under a lightweight concrete fill) are used as raceways for any and all electrical systems. To establish an outlet on any six-inch area of the floor, an electrician drills a small hole and fishes his wires to the exact spot. Each outlet takes only a matter of minutes, without muss or fuss or trenches. Such electrical flexibility enables the building to accommodate any amount of increased electrical demand.

The Tennessee State Building's other aspect of modernity will be best seen by sidewalk superintendents. They will see how the use of lightweight steel subfloor makes possible the use of light framework to save steel. Q-Floor, welded promptly into final position, forms a permanent platform for all subcontractors. This eliminates much temporary material needed by conventional construction. All subcontractors can go to work at the same time, because Q-Floor floors go up as fast as the frame and are immediately usable. By proper contractor organization, Q-Floors cut construction time 15 to 20%.

Q-Floor savings in construction costs—both time and material—are significant. An enormous amount of drafting room time also is saved, because partitions and outlets can be located after tenants move in. The earlier completion date reduces financing costs. But above all is Q-Floor's electrical adequacy for the life of the building. Currently, Frankfort, Kentucky, Des Moines, Iowa, and Cheyenne, Wyoming, are also constructing Q-Floor State office buildings.

Write for the latest Q-Floor catalog and literature showing new Q-Floor buildings and naming their architects.



Steel Q-Floor is shown here with suspended ceiling and a condensed visualization of mechanical equipment needed in a modern building.



H. H. ROBERTSON CO.

2404 Farmers Bank Building
Pittsburgh 22, Pennsylvania

Offices in ALL Principal Cities in the U. S. A. and Canada

World-Wide Building Service

NOTES FROM AN ARCHITECT'S SKETCH PAD

LOOKS LIKE THAT VERSATILE DRAVO "COUNTERFLO" HEATER CAN BE USED ON PRACTICALLY ALL OUR JOBS.



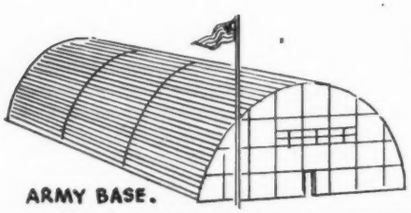
SCHOOL DISTRICT BUDGET LIMITED. CAN SAVE WITH DRAVO HEATERS.



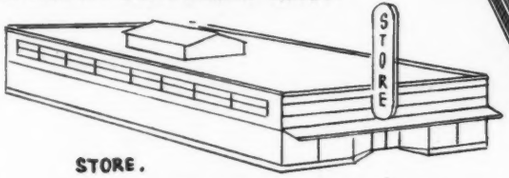
CHURCH. INTERMITTENT HEATING. NEEDS QUICK PICK-UP. DRAVO HEATER CAN DO.



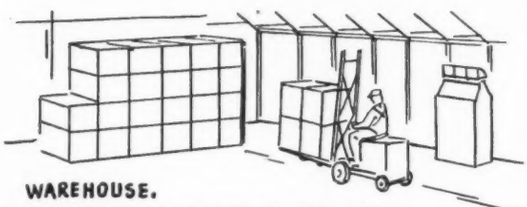
INDUSTRIAL PLANT. DRAVO HEATERS HAVE 150' AIR THROW. NO DUCTS NEEDED.



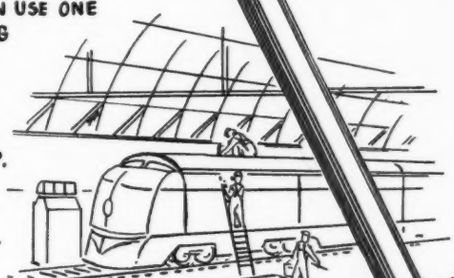
ARMY BASE.
WINTER CONSTRUCTION ON THESE BARRACKS. CAN INSTALL DRAVO HEATERS EARLY FOR HEAT DURING CONSTRUCTION AND AFTER COMPLETION.



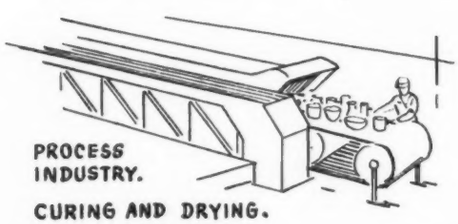
STORE.
WITH DRAVO HEATERS, CAN USE ONE SET OF DUCTS FOR HEATING AND AIR-CONDITIONING.



WAREHOUSE.
HIGH CEILINGS. DRAVO HEATERS CAN REDUCE ROOF HEAT LOSS, KEEP HEAT WHERE IT'S NEEDED.



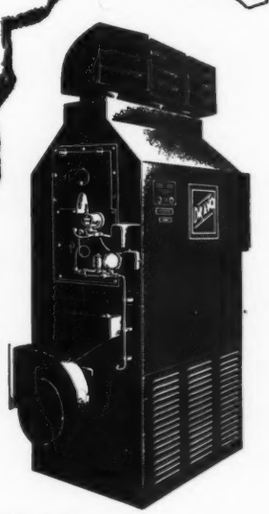
DIESEL RAILROAD SHOP. NEEDS HEAT AT WORKING LEVEL. DRAVO HEATERS IDEAL.



PROCESS INDUSTRY.
CURING AND DRYING. SPECIFY DRAVO HERE.



FOUNDRY.
EXHAUST EQUIPMENT CREATES HEATING AND VENTILATING PROBLEM. USE DRAVO HEATERS FOR TEMPERED "MAKE-UP" AIR.



...kin
...v Dravo.

A case study on any ... installations is yours for the asking. For complete information on how Dravo "Counterflo" Heaters can help solve your heating problems, write for Bulletin LM- 26-35

DRAVO CORPORATION

HEATING DEPARTMENT, DRAVO BUILDING, PITTSBURGH 22, PA.

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***New Apartment Trio in Brooklyn*—These apartment buildings comprise Concord Village, a dignified residential community for 480 families, in Brooklyn Heights. Concord Village is near the famous Brooklyn Bridge, and adjacent to what is to become the Brooklyn Majestic Civic Center. It is convenient to the Borough Hall section, and to all local transportation. The 15-story red-brick structures have apartment units varying in size from 1½ to 4½ rooms. Each building has an all-welded framework of Bethlehem Structural Shapes.**

Owners and Operators: Concord Freeholders, Inc., a corporation formed by eighteen mutual savings banks, Brooklyn, N. Y.; *General Contractors:* Paul Tishman Co. and Sol G. Atlas, New York; *Architects:* Benjamin Braunstein and Alfred H. Ryder, Jamaica, N. Y.; *Structural Engineers:* Weinberger & Weishoff, New York; *Steel Fabricator and Erector:* Lehigh Structural Steel Co., Allentown, Pa.

BETHLEHEM STEEL

Factory Lighting Comes of Age

with this NEW Litecontrol Industrial Fixture



Available for slimline lamps in 4' and 8' lengths (series 2400), and for bipin lamps in 4' lengths (series 2300).

HERE IT IS — the new LITECONTROL Industrial Unit that provides "white collar lighting for shop coat areas."

Minimum waste light . . . maximum lighting efficiency — This unit, employing general diffuse design, provides vent areas at the roof of the hood. Light is not "trapped" and thereby wasted as in older hood types, but instead is reflected through the vent to the ceiling and thence again to the working area *where it is needed.*

Sturdy construction . . . durably finished — The all-metal heavy gauge bonderized steel construction provides structural rigidity. And the LITECONTROL double-coated white finish is guaranteed not to chip, fade or discolor.

Maintenance minimized . . . mounting simplified — There's no maintenance worry with this LITECONTROL advance design. Lamps and starters can be easily replaced without disturbing baffles. Smooth curved sides can be wiped clean without cloth-snagging . . . no inaccessible dust corners. Diffuse design also helps keep interior of fixture clean through convection currents and overhead "escape hatch" for dust.

Mounting, too, is easy. Suspension mounting is recommended for peak performance, but provision is made for other methods where preferred or necessary.

Consult your lighting specialist . . . and write for free booklet today — A consultation with your lighting advisor . . . or with your nearby LITECONTROL Representative will save you time, money and trouble. If you are planning on new lighting for your factory, call on him today . . . and write today for your free copy of our new booklet: "Industrial Fluorescent Lighting by LITECONTROL."

LITECONTROL *Fixtures*

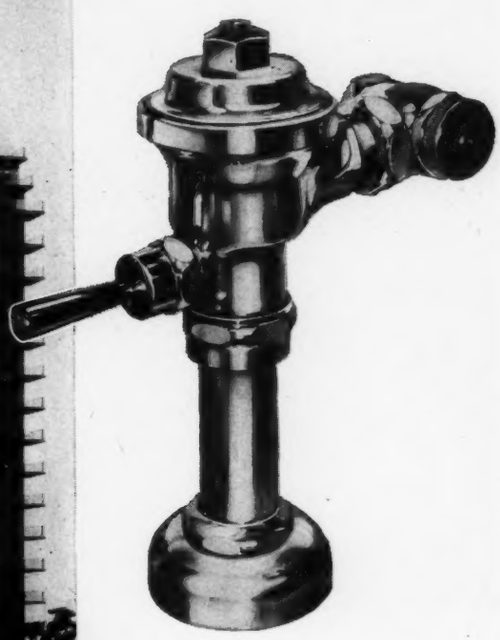
KEEP UPKEEP DOWN

LITECONTROL CORPORATION, 36 Pleasant Street, Watertown 72, Massachusetts

DESIGNERS, ENGINEERS AND MANUFACTURERS OF FLUORESCENT LIGHTING EQUIPMENT DISTRIBUTED ONLY THROUGH ACCREDITED WHOLESALERS

And in New York – A FUTURE OF FAULTLESS SERVICE





SIXTY SUTTON PLACE SOUTH
New York City
ARTHUR WEISER
architect
RUTHERFORD L. STINARD
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PAUL TISHMAN COMPANY
general contractors
JOHN WEIL PLUMBING CORP.
plumbing contractor
SMOLKA CO., INC.
wholesale distributors

Here at New York's smartest new address and newest COYNE & DELANY installation, the fine touch of exacting planning is everywhere evident.

Fronting on the famed Franklin D. Roosevelt Drive immediately north of the United Nations site, this 19 story luxury dwelling will offer exciting river views from private terraces. Among other features are individual apartment air conditioning, unique in New York, and an enclosed two level garage. Complimenting these niceties in each apartment will be the matchless performance of nearly 600 COYNE & DELANY diaphragm type FLUSH VALVES — selected where only the best will do.

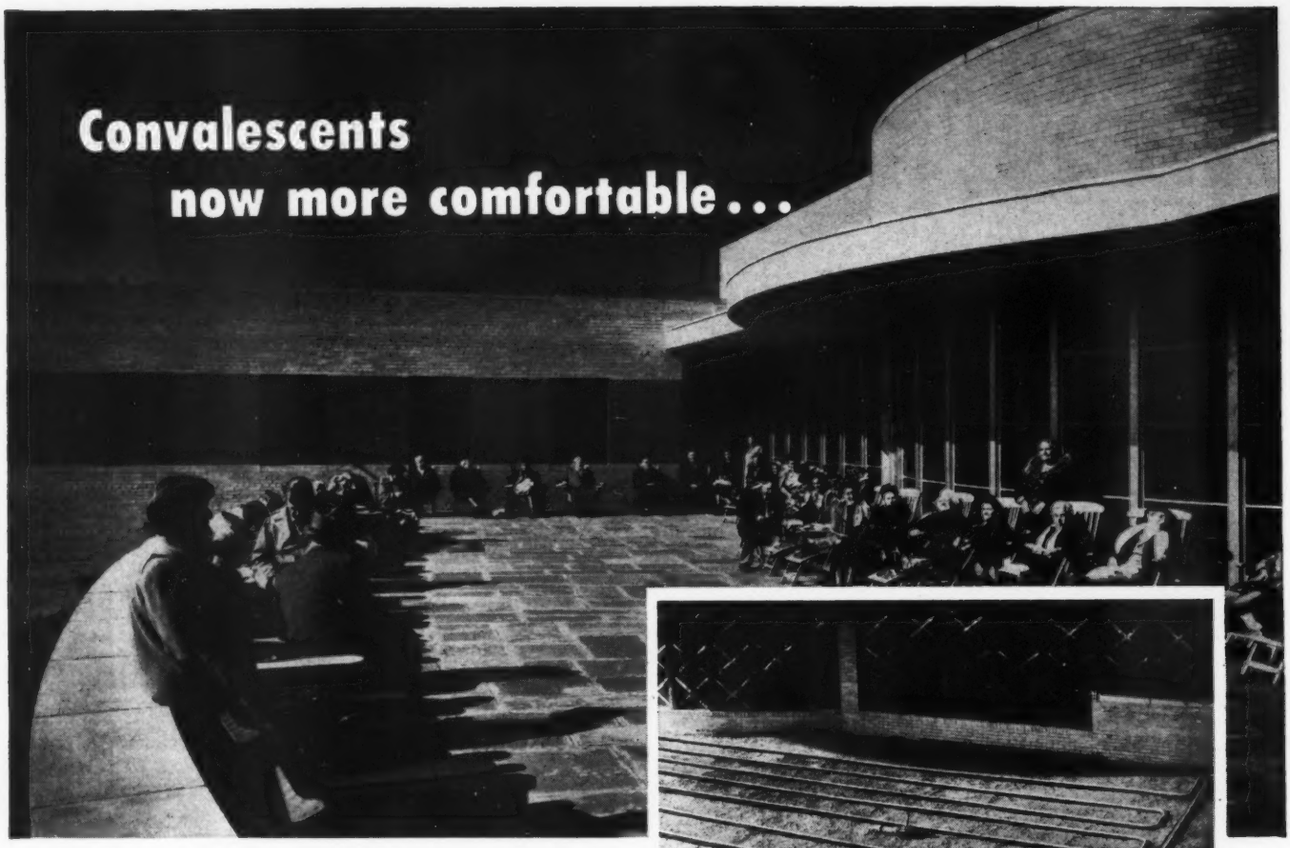


Another singular advance in flush valve design is the newly engineered "Rubberflex" sealed handle unit — now available on all DELANY models. Springless and packingless, and consisting of only four parts (as shown in exploded view at left), the "Rubberflex" provides a wall of impervious rubber to reduce the chronic annoyance of leaking and sticking handles.

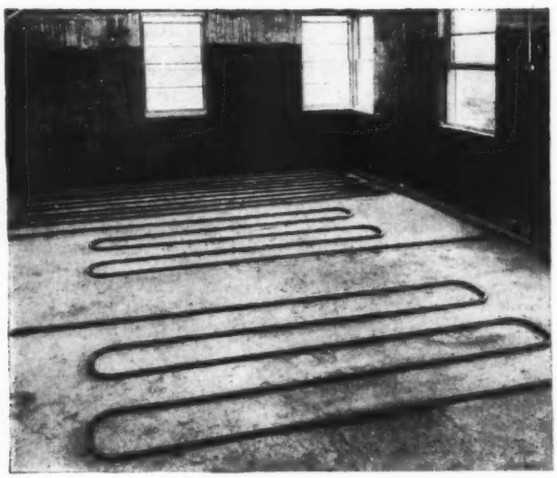
COYNE & DELANY CO. • 834 KENT AVE. • BROOKLYN, NEW YORK

Since 1879

DELANY *Flush* **VALVES**



with radiant heating and snow melting



● You'll look a long time before you find a building more ideally suited to the needs of the convalescent. It's the Brooklyn Jewish Home for Convalescents in Far Rockaway, N. Y.

They used 27 tons of National Steel Pipe for the radiant heating and snow melting installation. Every room has radiant heat—the ideal heating system for the aged and the ill.

To make full use of the terrace year round, a snow melting system was installed using National Steel Pipe. Now, patients can utilize the sun-bathed terrace in all but the very worst weather.

National Steel Pipe has been used for many radiant heating systems in homes, institutions and industrial plants. The pipe is made to the same rigid standards that have made National the preferred pipe for conventional heating for over *60 years*.

If you have any questions regarding pipe for radiant heating or snow melting, make use of our wide experience. We think we'll be able to help you.

NATIONAL TUBE DIVISION, UNITED STATES STEEL COMPANY, PITTSBURGH, PA.
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UNITED STATES STEEL EXPORT COMPANY, NEW YORK

U·S·S NATIONAL Steel PIPE

USS

UNITED STATES STEEL



"CHRYSLER BUILDING EAST"
Architect:
Reinhard, Hofmeister & Walquist.
General Contractor:
Turner Construction Co.
Sheet Metal Contractor:
Benjamin Riesner, Inc.



FOR THE LATEST AND FINEST TECHNIQUE

in Copper Base Flashing

Install The New Chase Copper Base Flashing Expansion Joint

This new patented Copper Joint permits movement of copper base flashings due to expansion and contraction without danger of buckling or cracking.

Sheet metal contractors and architects realize that with this Chase Expansion Joint, copper base flashing becomes even more efficient and economical for use at the juncture of flat built-up roof and masonry wall.

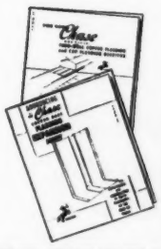
The new Chase Copper Base Flashing Expansion Joint is made of 18-ounce copper. Open seams on the edges of the joint permit fast, easy interlocking and soldering to the adjoining lengths of base flashing. A "cap box" is supplied with each Expansion Joint for attachment to the cap flashing and a completely watertight job.

Chase BRASS & COPPER

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FREE FOLDERS: *You will also want to know about the new Chase One-piece Thru-Wall Copper Flashing and Cap Flashing Receiver. Write for folders on both these new developments in copper flashing.*

Chase Brass & Copper Co., Dept. AR-252
Waterbury 20, Conn.

Please send me your free folders

☐ *Chase Copper Base Flashing Expansion Joint.*
☐ *The New Chase One-Piece Thru-Wall Copper Flashing.*

NAME _____

POSITION _____

FIRM _____

STREET _____

CITY _____ **STATE** _____

This need never happen to Your Clients

The inconvenience and expense of interrupted service, torn up landscaping and messy digging can be eliminated on the drawing board when you specify **cast iron soil pipe.** It cannot be fractured by ground settlement, root-growth or vibration. That's why **cast iron soil pipe** and fittings means trouble-free service for the *lifetime of the building.*

Above or below ground, it's the only available material that time has tested, year in year out—decade after decade. That's one reason why every plumbing code in the country is built around **cast iron soil pipe** and fittings . . . why architects specify cast iron with complete confidence.

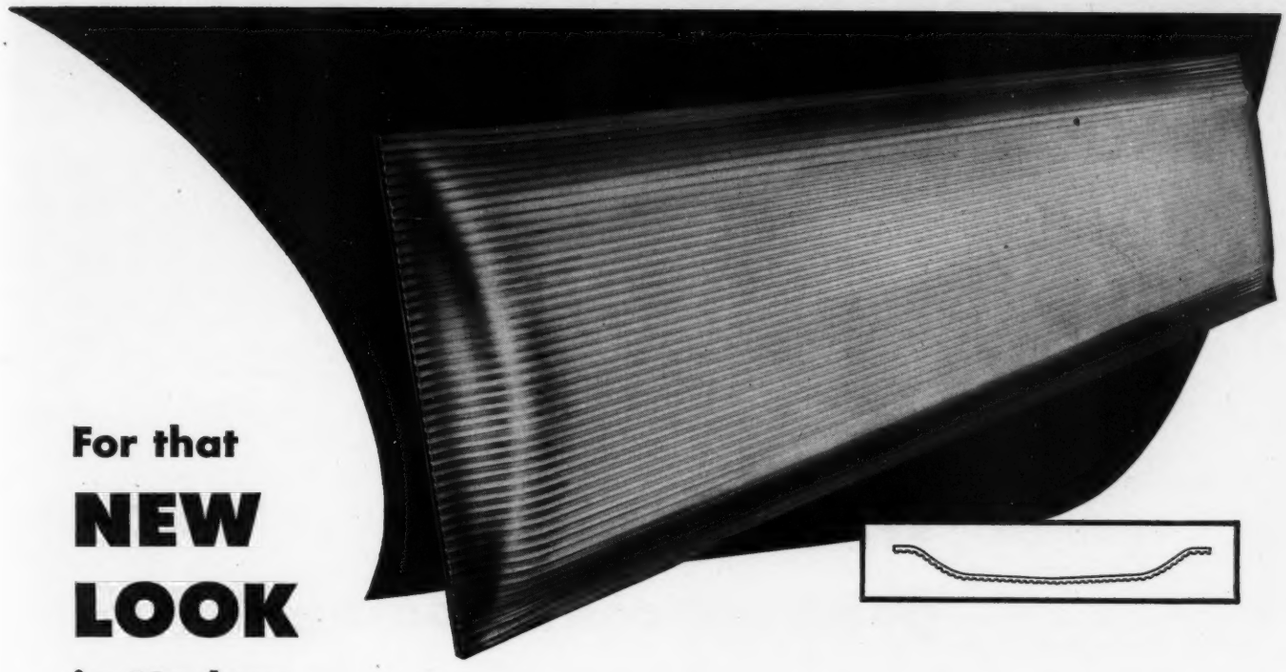


CAST IRON SOIL PIPE INSTITUTE
Heurich Building, 1627 K. St., N.W., Washington 6, D. C.

CAST IRON SOIL PIPE INSTITUTE

This advertisement is sponsored by

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For that NEW LOOK in Modern Interior Styling ... New Curved ALBA-LITE

New curved panels of popular ALBA-LITE enhance the clean-lined styling of modern interiors. Their long lengths minimize the number of visible joints in continuous runs—give rooms that smooth new look and freshness.

Made in open and closed end pieces in lengths up to 48″, they are adapted to standard fixture construction of both the hinged door frame and continuous open trough types. Unlike other materials, ALBA-LITE will not sag, warp, discolor or scratch. Maintenance costs are minimized... cleaning is a matter of seconds.

The soft opal glass in these new panels diffuses light evenly throughout the room, providing fixtures with controlled brightness and a pleasing appearance both when lighted and when not in use.

Curved ALBA-LITE panels are available through all leading fixture manufacturers, many of whom feature ALBA-LITE in their fixtures. If you are seeking new treatments or new solutions to standard lighting problems, send for Bulletin LS-32 and a set of Photometric sheets describing ALBA-LITE and other Corning engineered lightingware. They are yours for the asking.



ALBA-LITE is also available in 3 standard patterns in flat sizes up to 24″ x 100″, or bent to your particular specifications. It is adaptable to any type installation where color fidelity, high light efficiency, and maximum design flexibility are needed. It is ideally suited for totally direct lighting in luminous ceilings and recessed fixtures, or for semidirect lighting in suspended fixtures.

PYREX

CORNING GLASS WORKS

CORNING, NEW YORK

Corning means research in Glass

VISIT THE NEW CORNING GLASS CENTER

Technical Products Division: Laboratory Glassware, Signalware, Glass Pipe, Gauge Glasses, Lightingware, Optical Glass, Glass Components

CORNING GLASS WORKS, Dept.AR-2, Corning, N. Y.

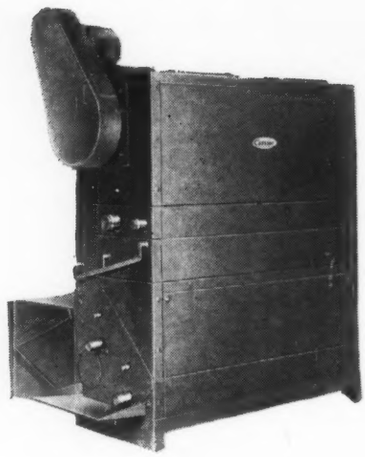
Please send ☐ Bulletin describing Curved ALBA-LITE panels; ☐ Photometric sheets.

Name_____ Title_____

Firm_____

Address_____

City_____ Zone____ State_____



The Carrier System Weathermaker, a compact fan-coil air conditioner for central system applications, is available in vertical and horizontal models.

What goes into good air conditioning?

Good equipment, naturally. But we think that's only half the story. The other half is good dealer engineering.

For example, take our System Weathermaker. Its unique sectionalized construction permits a wide variety of unit combinations to meet individual job space requirements.

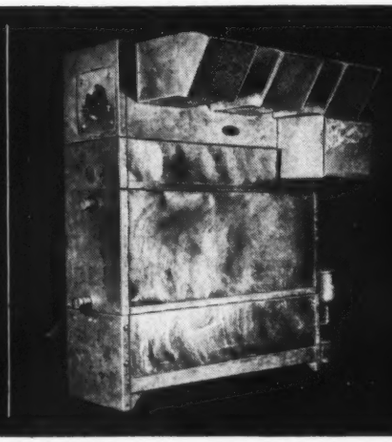
Good? There's nothing else like it for compact, central system air conditioning using ducts for air distribution.

And here's where the Carrier dealer comes into the picture. He *knows* air conditioning. He knows how to utilize this sectionalized construction in terms of your needs. His experience plus our product produces the kind of air conditioning that's easily installed, technically suited to the job, and completely dependable.

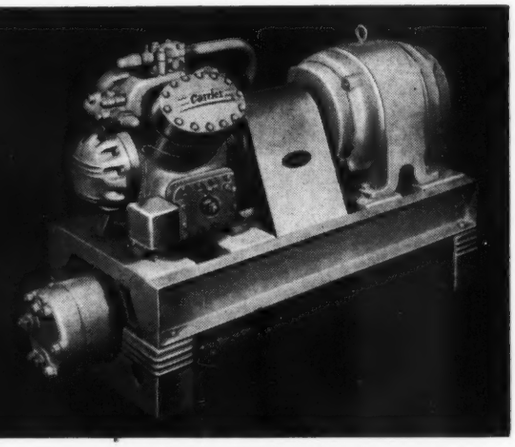
Remember that Carrier offers a full line of products, all matched in size, performance and quality to work together. So whatever your air conditioning or refrigeration needs, your Carrier dealer is the man to see. He's listed in your Classified Telephone Directory. Or write Carrier Corporation, Syracuse 1, New York.

Carrier

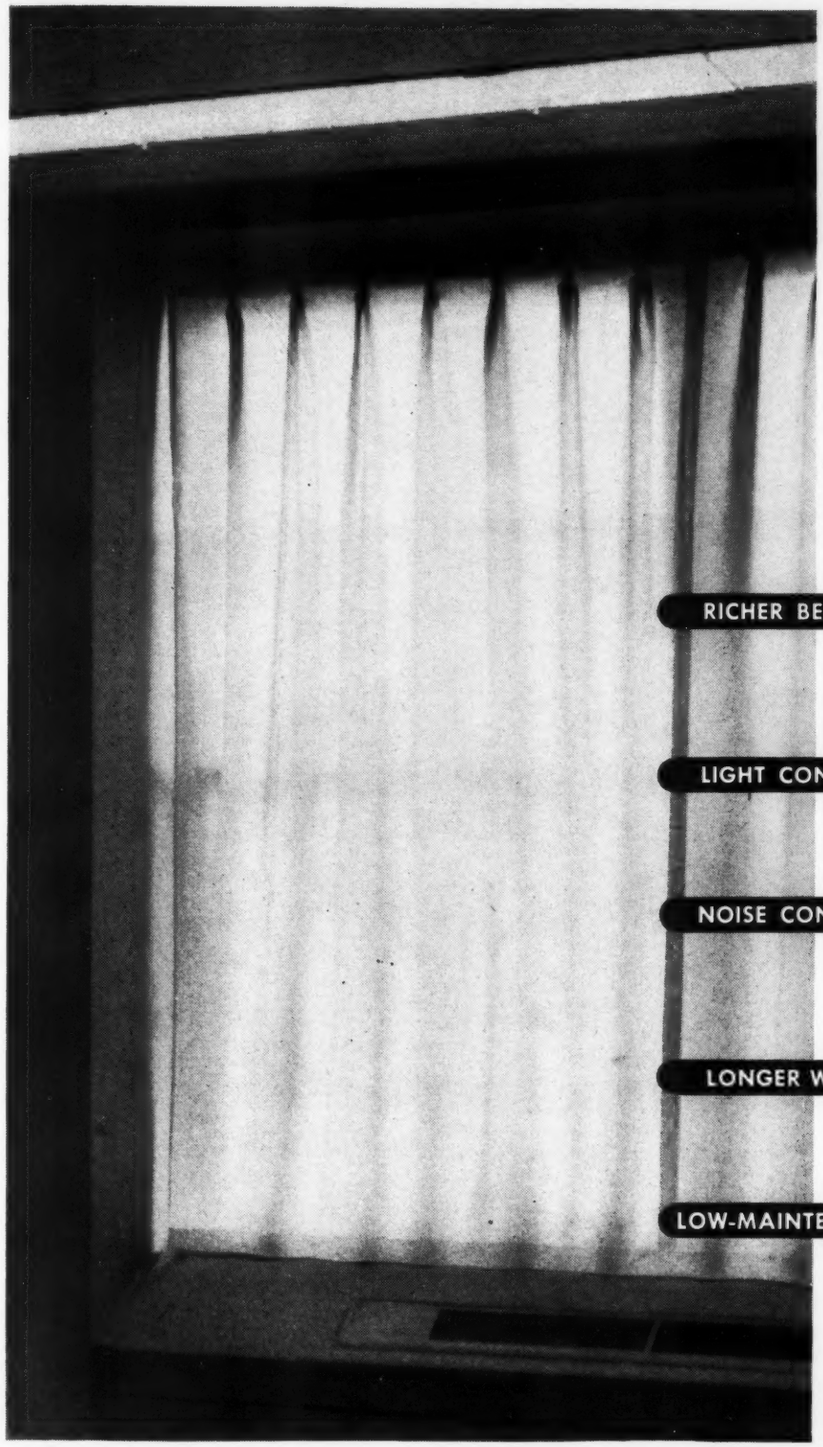
AIR CONDITIONING
REFRIGERATION
INDUSTRIAL HEATING



The Carrier Evaporative Condenser, an economical accessory where water is costly or limited. Indoor or outdoor installation.



The compact Carrier Refrigerating Compressor, for all types of air conditioning and commercial refrigeration applications.



You find

GOODALL MOHAIR† CASEMENT CLOTH

in outstanding buildings

RICHER BEAUTY Goodall Casements hang like draperies...come in linen-like weaves†, weaves with a hand-loomed look, patterns, decorator colors that set new, high standards in office decorating.

LIGHT CONTROL Goodall Casement cloth diffuses sunlight into soft, glareless light that helps provide better working conditions at maximum distance from windows.

NOISE CONTROL Goodall Casements . . . unlike hard, flat window coverings . . . absorb sound. They soften distracting office noises . . . help keep employees at their efficient best.

LONGER WEAR Goodall Casements are *Blended-to-Perform* of fibers chosen for their qualities of maximum durability as well as luxury and beauty.

LOW-MAINTENANCE Dust virtually slides off the smooth surface of Goodall Casements. They resist wrinkling, stay fresh longer. Of course, they can be washed or dry cleaned thanks to multiple processes that minimize shrinking, sagging, and stretching. For full information write: *Goodall Fabrics, Inc., Casement Division, 525 Madison Ave., New York 22, N. Y.*

Among outstanding installations of Goodall Mohair Casement Cloth

American Insurance Company, Newark, N. J.
Farm Bureau Mutual Automobile Insurance Company, Columbus, O.
Interstate Life & Accident Insurance Company, Chattanooga, Tenn.
John Hancock Office Building, Boston, Mass.
Manufacturers Trust Company, Brooklyn, N. Y.
New York Life Insurance Company, New York, N. Y.
Remington Rand Inc., Chicago, Ill.; Detroit, Mich.; Atlanta, Ga.
Union Dime Savings Bank, New York, N. Y.
Washington, D. C. Post Building

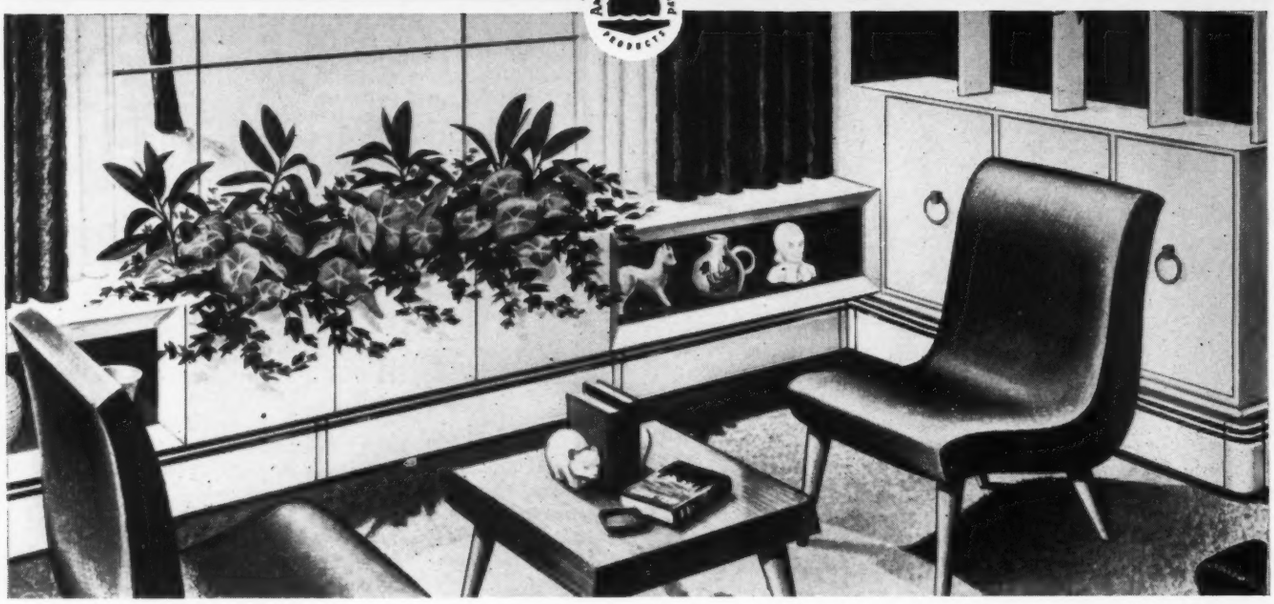
Goodall fabrics
THE FINEST NAME IN FABRICS

†*Variable blend of mohair, cotton, rayon and acetate*

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AMERICAN-Standard
HEATING



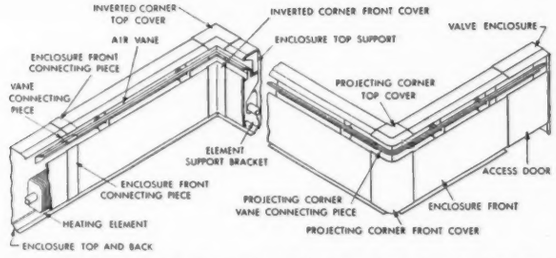
Announcing

an important new development in baseboard heating...
HEATRIM PANELS by AMERICAN-Standard

● Heatrim Panels present a smart appearance. They blanket the perimeter of the home with abundant warmth. And they're economical to own and to operate. Your clients will appreciate the many advantages of these smartly-styled, space-saving units. And the adaptability of Heatrim Panels offer *you* greater latitude in architectural planning.

Heatrim Panels take the place of regular wood baseboards. They are smartly designed to complement modern decorative motifs. Furnished with a grey prime coat base, they can be painted to harmonize with surroundings or finished to match wood trim. Installed—either free standing or recessed to the depth of the plaster—Heatrim Panels take up so little space that virtually all the floor area can be used. They're excellent for use under picture windows.

Whether you're planning new construction or a modernization job, Heatrim Panels will add to the attractiveness of your job . . . and your clients will have comfortable, healthful warmth, at a very low cost.



Heatrim Panels, specifically designed by American-Standard for forced circulation hot water heating, offer many economies. Since the heart of the element is actually a straight tube, air is carried along with the water. There is no need for vent valves . . . and piping can be held to a minimum. The heating element consists of die-formed rectangular shaped aluminum fins mechanically bonded on correctly sized copper tubing. The trim sheet steel enclosure has one-piece back and top, and steel front designed to fasten firmly on support brackets without use of tools. Panels are available in six-foot lengths . . . can be cut easily to fit any space requirement.

AVAILABLE FOR PROMPT DELIVERY!

American Radiator & Standard Sanitary Corporation, P. O. Box 1226, Pittsburgh 30, Pa.

Serving home and industry

AMERICAN-STANDARD · AMERICAN BLOWER · ACME CABINETS · CHURCH SEATS · DETROIT LUBRICATOR · KEWANEE BOILERS · ROSS HEATER · TONAWANDA IRON



Installation of Insulux 12-inch (463) and 8-inch (363) blocks at the Daylighting Laboratory, Engineering Research Institute, University of Michigan, Ann Arbor, Michigan. Choose the scale you prefer, or combine both sizes.

Now Insulux gives you a choice of light-controlling blocks in 12-inch and 8-inch sizes— *READY FOR IMMEDIATE DELIVERY*

USE the new Insulux 12-inch light-controlling blocks to create an entirely new scale in glass block panels . . . Or, combine with the 8-inch size for interesting formal or abstract design. While the 12-inch size transmits more light than the 8-inch, the brightness of the faces are visually equal.

These new 12-inch Insulux Glass Blocks are available in light-directing design No. 463 (for use above eye-level) and the light-diffusing design No. 465 (for use below eye-level). The addition of the 12-inch sizes gives the architect four Insulux light-controlling blocks for the solution of every daylighting problem. *And all four are in production and ready for immediate delivery.* They've been installed and proved in service.

12-inch Insulux blocks use less mortar, have more light-controlling glass surface. Faster laying results in real erection economies. And, like the 8-inch size, they have an exclusive azimuth-correcting design that helps light the far corners of a room. Easy-cleaning face finish and gold-stripe installation guide marks are features of all Insulux light-controlling glass blocks.

All Insulux Glass Blocks® provide better insulation, longer life and lower maintenance than any other fenestration material.

Make sure the buildings you design have the long-lasting advantages of an Insulux Fenestration System installed on Daylight Engineering principles. A Daylight Engineer will be glad to help you. His knowledge and experience is at your service. Just write Insulux, Dept. AR-2, Box 1035, Toledo 1, Ohio.

INSULUX FENESTRATION SYSTEMS

—by the leaders of Daylight Engineering

INSULUX GLASS BLOCK



This remodeled furniture store utilized a Pittsburgh Free-Standing Doorway. Architect: Charles Kendall, High Point, N. C.

Why it's wise to specify

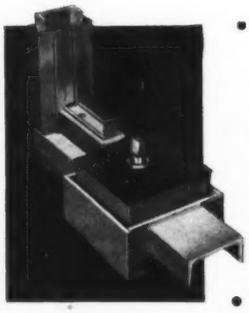
precision-built Pittsburgh Doorways

WHEN you are faced with the selection of doorways, two important factors should have your serious consideration—*quality fabrication* and *total-installed cost*, not just the list price.

That leads to but one logical conclusion: "Pittsburgh Doorways are by far the wisest choice."

Factory-assembled to precision standards, they reach the job in one "package." They eliminate time- and labor-consuming details of fitting, locating and calculating in the field. All that's required is the unpacking of the frame, bolting it into the opening and hanging the Herculite Doors, for whose strength the frames are especially designed.

All this means a sizable reduction in on-the-job costs, as well as highly satisfactory and dependable doorway installations. Why not write for illustrated booklet containing all the facts? Do it now. Pittsburgh Plate Glass Company, 2012-2 Grant Building, Pittsburgh 19, Pa.



Pittsburgh Doorways swing easily always. They can't get out of line. That's because of the heavy steel construction which reinforces the heavy extruded aluminum frame. Note sidelight track in this lower section of the frame—an integral part of several standard style Pittsburgh Doorways. The unique Pittco Checking Floor Hinge is permanently fixed in its reinforced box.

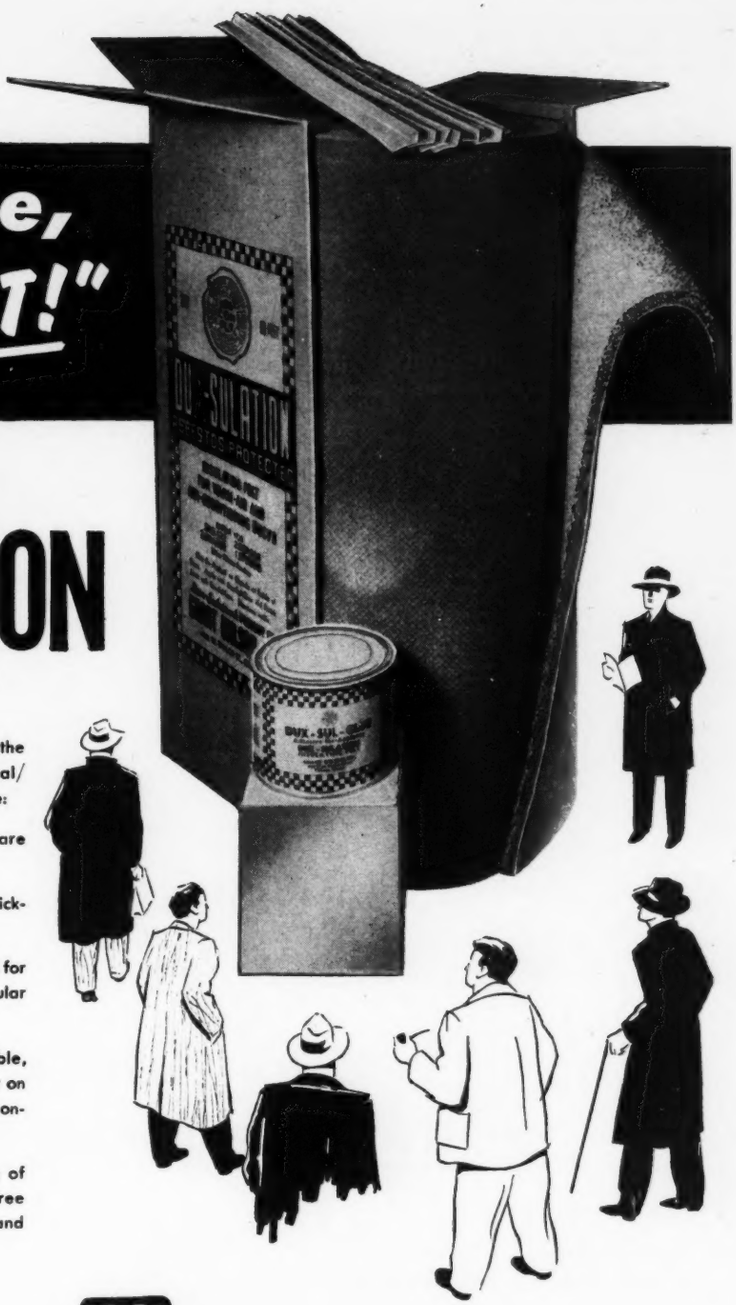
Pittsburgh **DOORWAYS**

PPG

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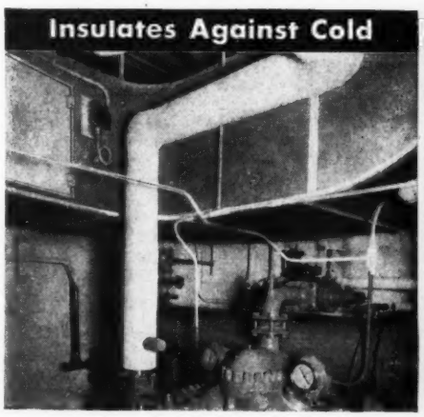
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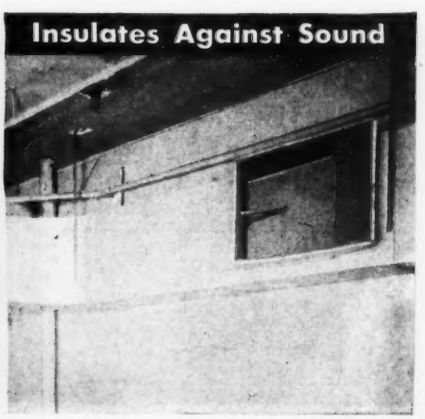
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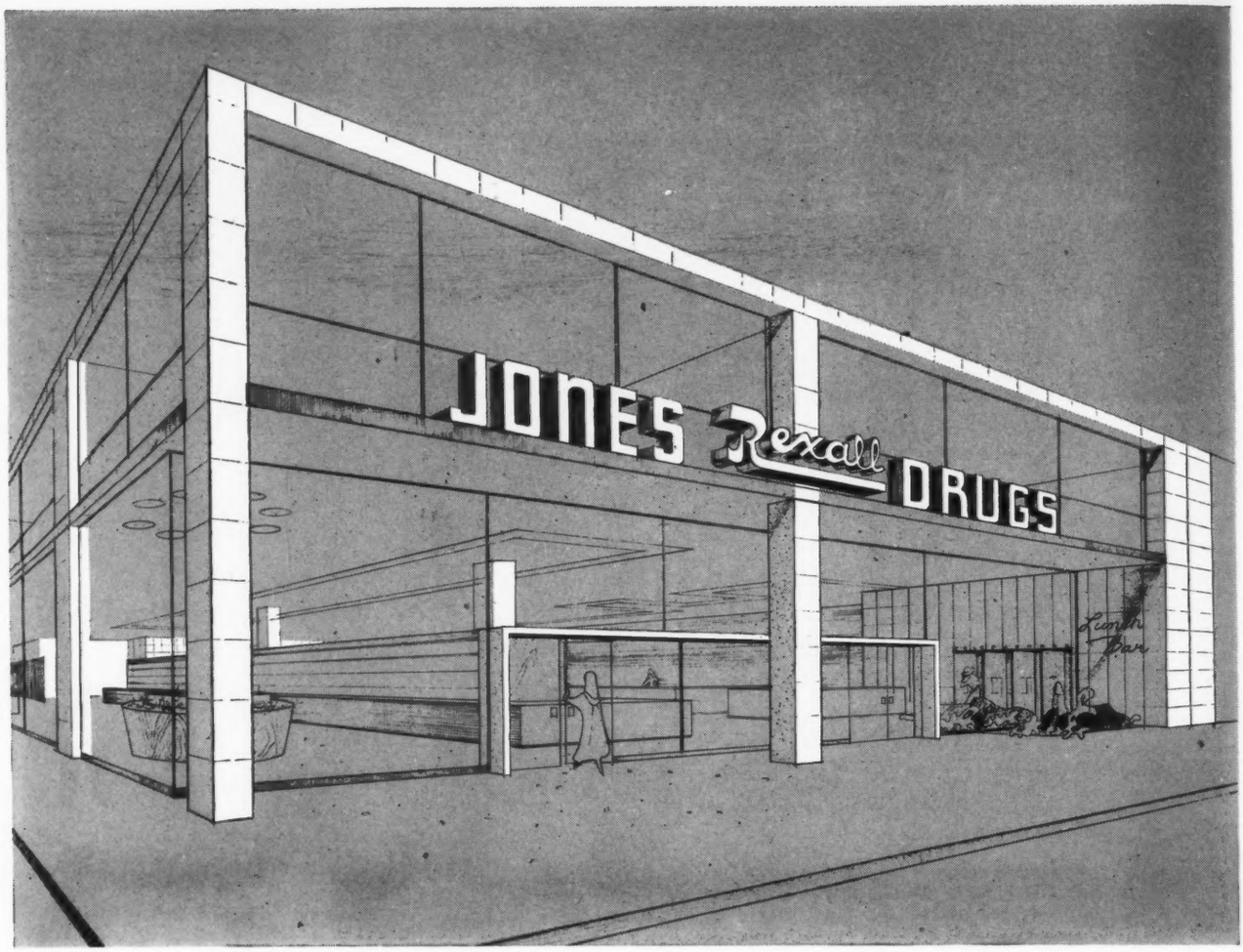
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THE DESIGN IDEA THAT WORKS AS WELL AS IT LOOKS

Your satisfaction with a modern Visual Front may well come from its clean, simple lines—from the way it uses the transparency of glass so effectively to make the sidewalk an aisle of the store.

But, *your client* will like what it does to his cash register. Visual Fronts are designed to bring in store traffic—to turn passersby into customers.

It works. And that's why the Visual Front has taken hold, for so many types of stores from small town to metropolis.

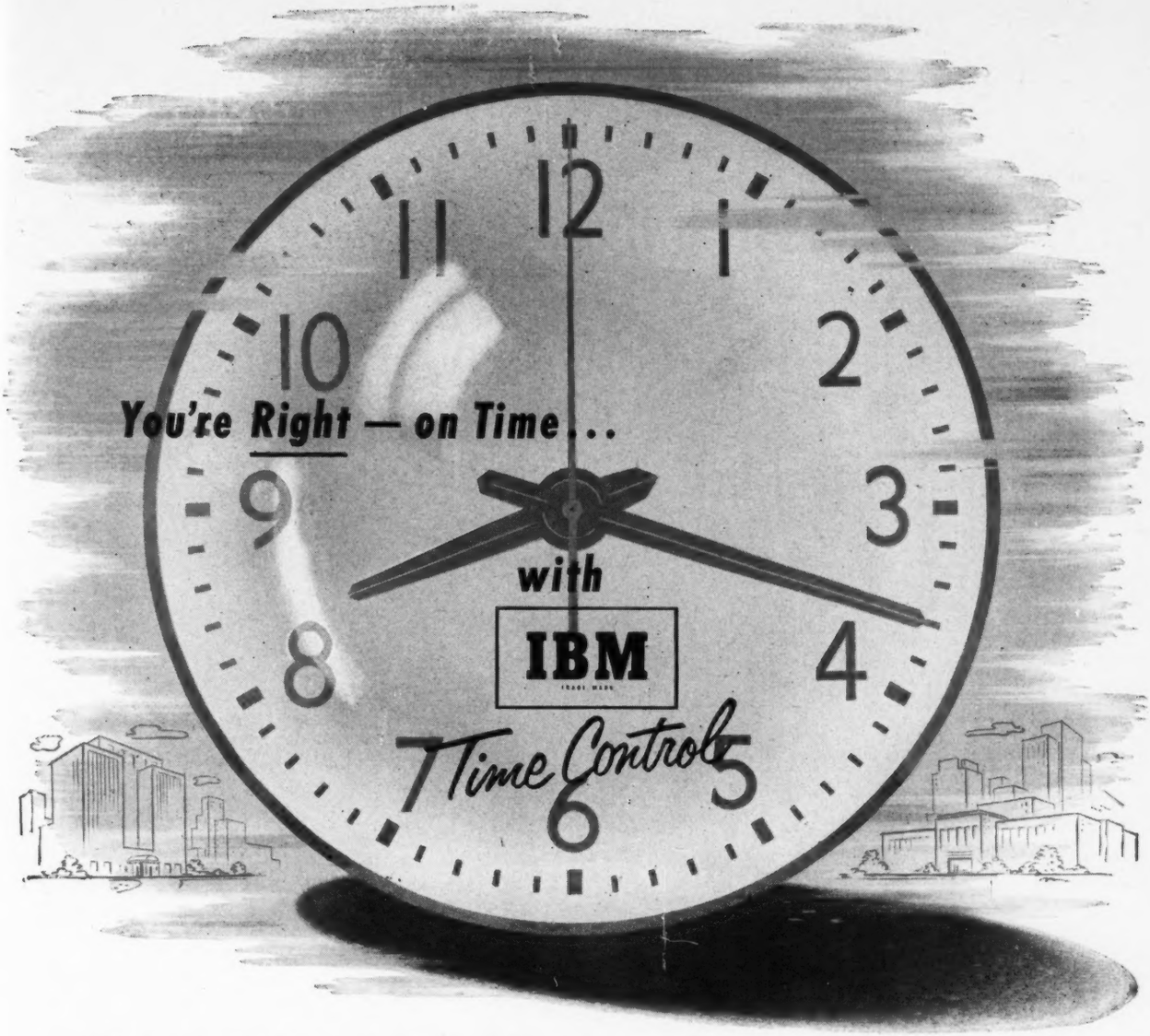
It's a design idea with merchandising power.

Glass is the key to Visual Front design. And a logical place to turn for information on quality glass products is your Libbey·Owens·Ford Distributor. He knows glass and its practical applications. He's a local businessman who's hep to local conditions and sources of supply. You'll find him listed in the yellow pages of phone directories of major cities. Libbey·Owens·Ford Glass Company, 7522 Nicholas Building, Toledo 3, Ohio.

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Right—because units may be added or relocated later without the inconvenience and expense of special wiring.

Right—because behind the IBM Electronic Time System stands IBM's 50 year record of accuracy and dependability in time control.

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*Electric Time System with Electronic Self-regulation.

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Please send data on IBM Electronic Time Systems, or on individual units checked.

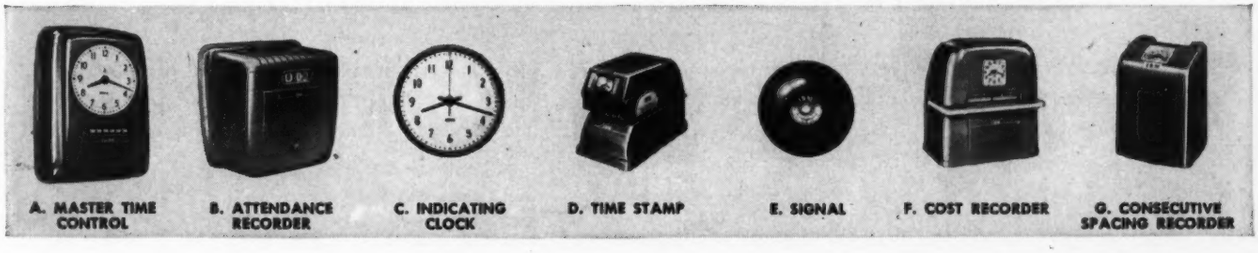
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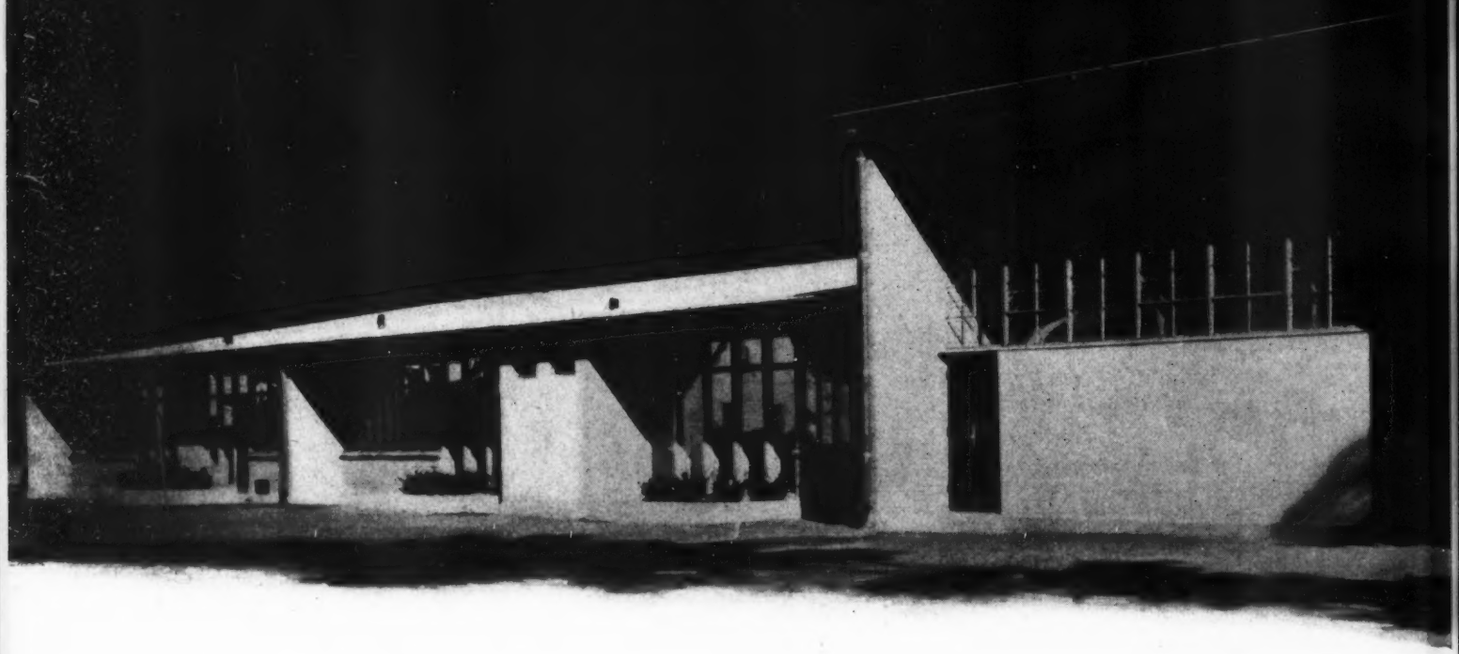
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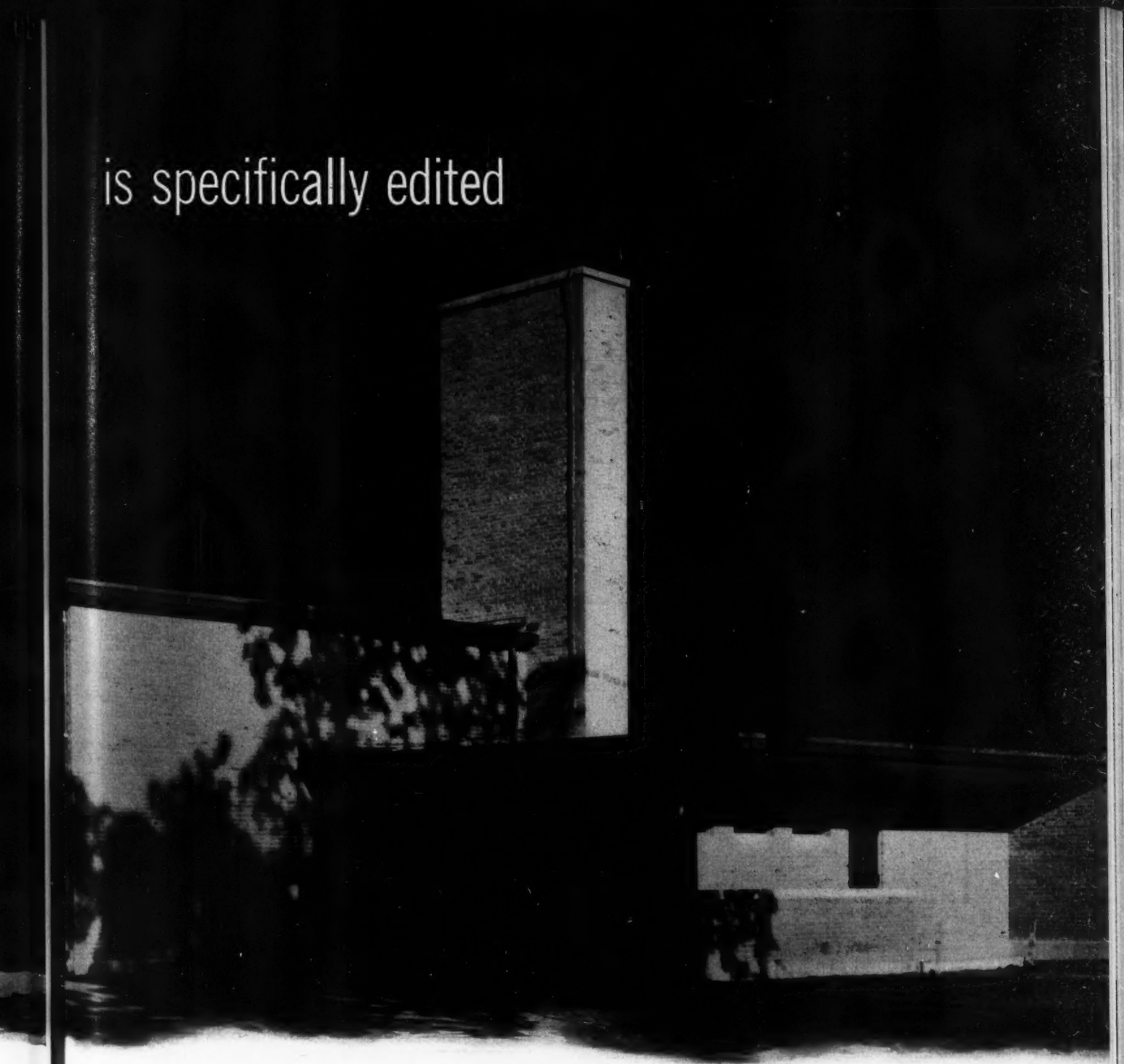
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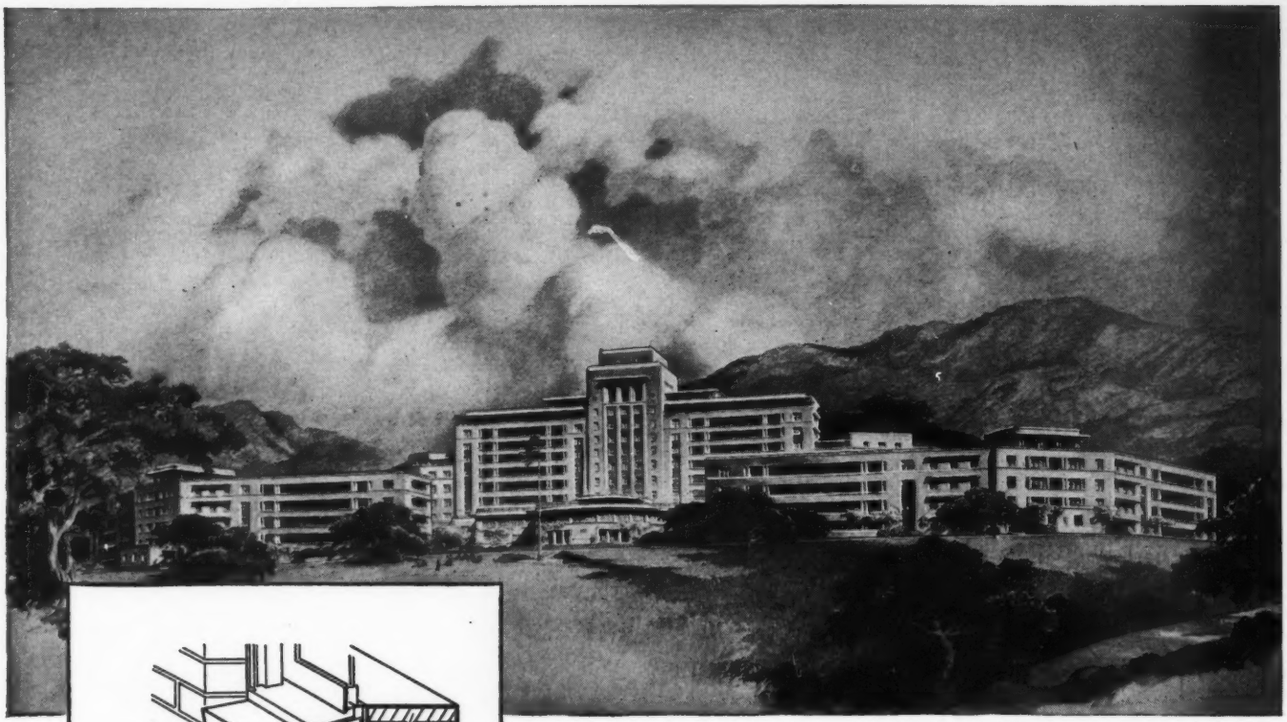
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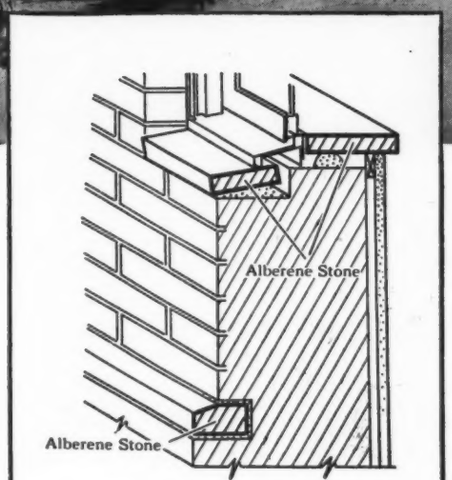
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Tripler General Hospital, U. S. Army Medical Dept., Hawaii — Architects: York and Sawyer, New York City. 1½" Alberene slip sills.



Detail showing 1½" thick slip sill with 1¼" stool and 2¼" belt course.

sills, stools, and trim of ALBERENE stone are DURABLE and ECONOMICAL

Regular Grade Alberene Stone is an ideal material for exterior trim because it can be cut into thin sections, permitting substantial economies. It offers freedom to the designer — by making possible greater reveal, to give just one example.

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Where a darker color is desired, we suggest Alberene Serpentine. It is a darker gray in rubbed finish, blue-black when honed, and blue-black or black when polished.

The high chemical resistance of both stones, which has made them favorites for use in laboratory equipment, also makes them ideal for *window stools* in laboratory buildings.

Since there is a decided difference in price between Alberene *Regular Grade* and *Serpentine*, architects' specifications should be carefully worded so as to clearly call for the type desired. Ample supplies of both materials are available.

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The NEW "Lo-Loss" Feeder Bus

was designed for the transmission of electric current up to 4000 Amperes at 600 Volts or less. Ideal for welding and other low power factor loads.

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Insulated copper bars mounted on close centers provide low reactance, low voltage drop, minimum temperature rise.

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No. 12 gauge channel frame supporting insulators makes it *toughest in the business.* Recent independent, unbiased tests prove "Lo-Loss" can take it—100,000 RMS Amperes at 440 Volts! Details on request.

Compactness

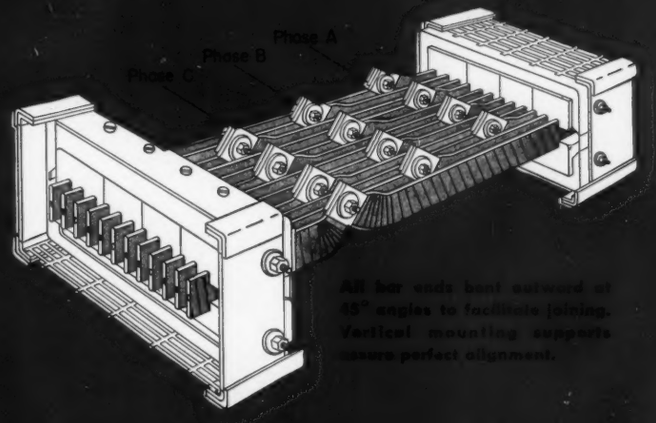
Composite drawings comparing size of "Lo-Loss" with other busways prove why it is ideal for remodeling jobs where space is at a premium.

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Can be installed in any position with bars in vertical or horizontal position. Readily adaptable to industrial or commercial installations. Approved for vertical mounting when used for risers.

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All bar ends bent outward at 45° angles to facilitate joining. Vertical mounting supports assure perfect alignment.

Write for the new

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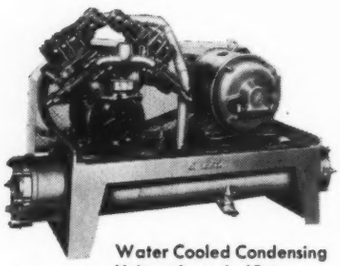
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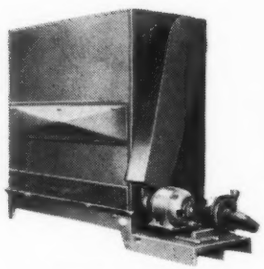
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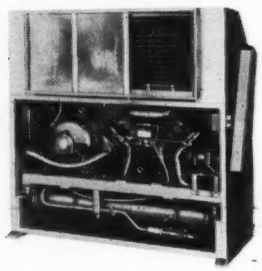
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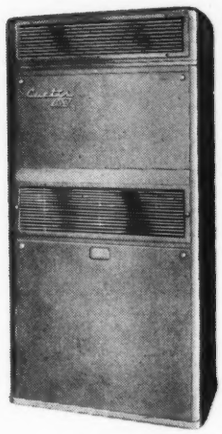
Water Cooled Condensing Units—through 40 tons



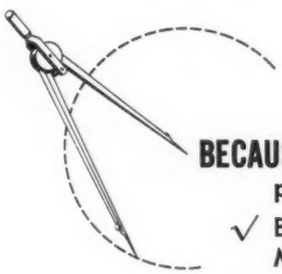
Evaporative condensers—cooling towers — and air handling units to match



Central Type—10-15 Ton Air Conditioning



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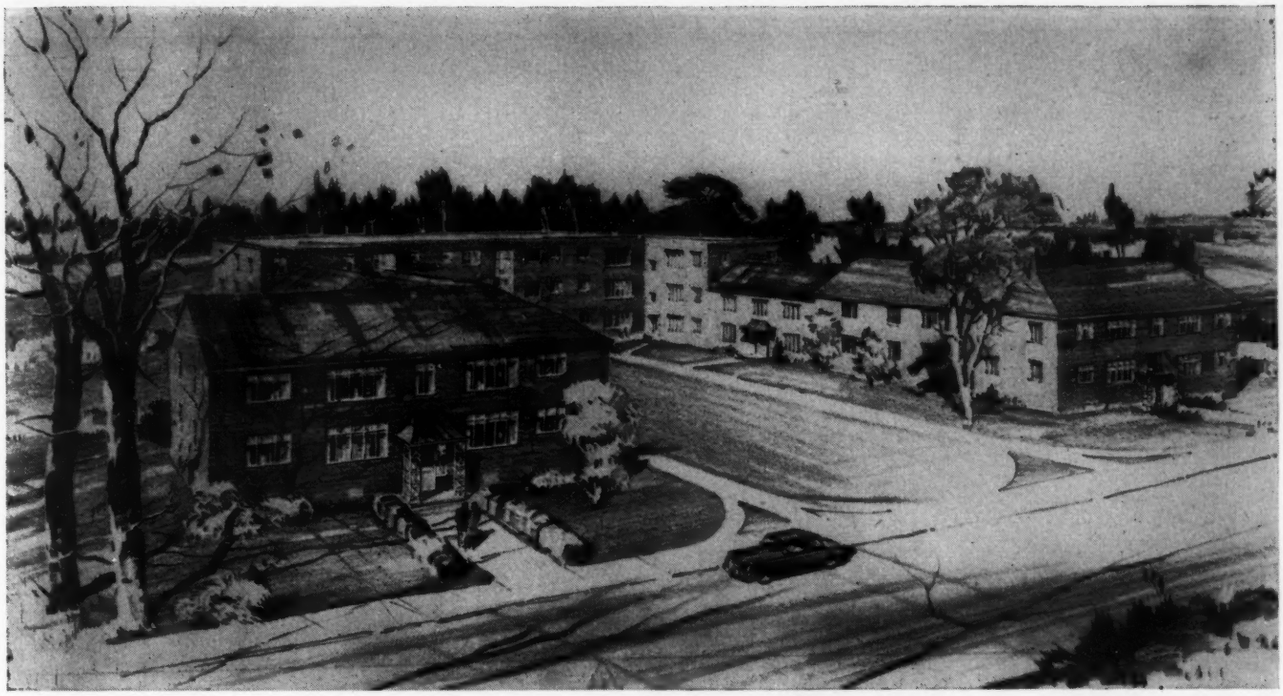
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A dry foundation for Swifton Village

1200 UNITS AT THE NEW SWIFTON VILLAGE, CINCINNATI, OHIO.

The above illustration is an architect's conception of a section of the new housing project that will house, when completed, 4,500 people, covering 36 acres



Al Loreti applies 2 coats of Thoroseal to concrete block foundation, as sure protection against rain and dampness.

THOROSEAL

Developed and built by The Jonathan Woodner Company, of Washington, D. C., the project, when completed, will total $25,000,000. The Thoro System materials, used on this project, furnished by the Oakley Coal & Supply Company, through The Nurre Company, Cincinnati.

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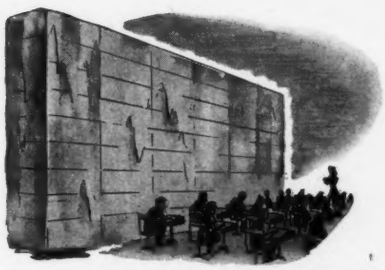
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Beauty you can see . . . quality you can trust . . . since 1825

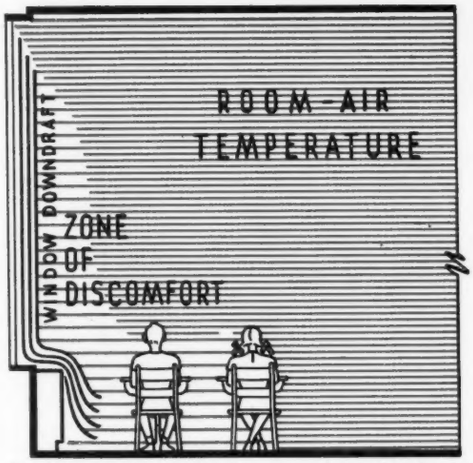


Will your system be ABLE to cope with the window "wall-of-ice" in the classroom?

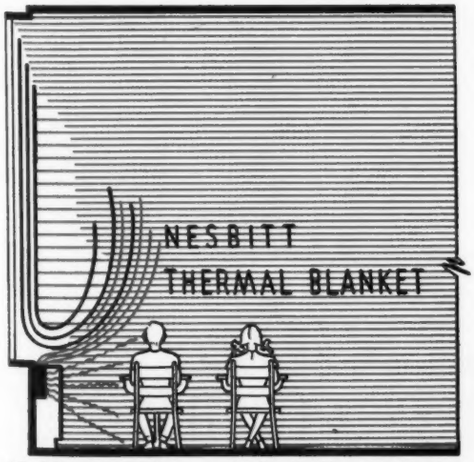


Showing the Nesbitt Syncretizer with Wind-o-line Radiation extending from both ends of the ventilating unit—positive protection against window downdraft.

How Comfort*able* will be your new SCHOOLROOM UNIT VENTILATING SYSTEM?



With room-air temperature evenly maintained, the downdraft from large windows on cold days may remain the robber of comfort for pupils.



Nesbitt Syncretizer and Wind-o-line Radiation temper the window downdraft, raise it out of the impression range, improve thermal balance.

If thermal comfort depended alone upon the classroom *air temperature,* your choice of ventilating units would be relatively easy . . .

but since you know that the *radiant temperature differential* of surrounding walls and surfaces is equally important in its effect on overall thermal comfort, you need to remember:

1. The basic cause of low surface temperatures in cold weather is the large window area in the modern classroom.

2. The sound solution to the chilling effect of the downdraft created by this "wall-of-ice" is to release *heat* over the surface.

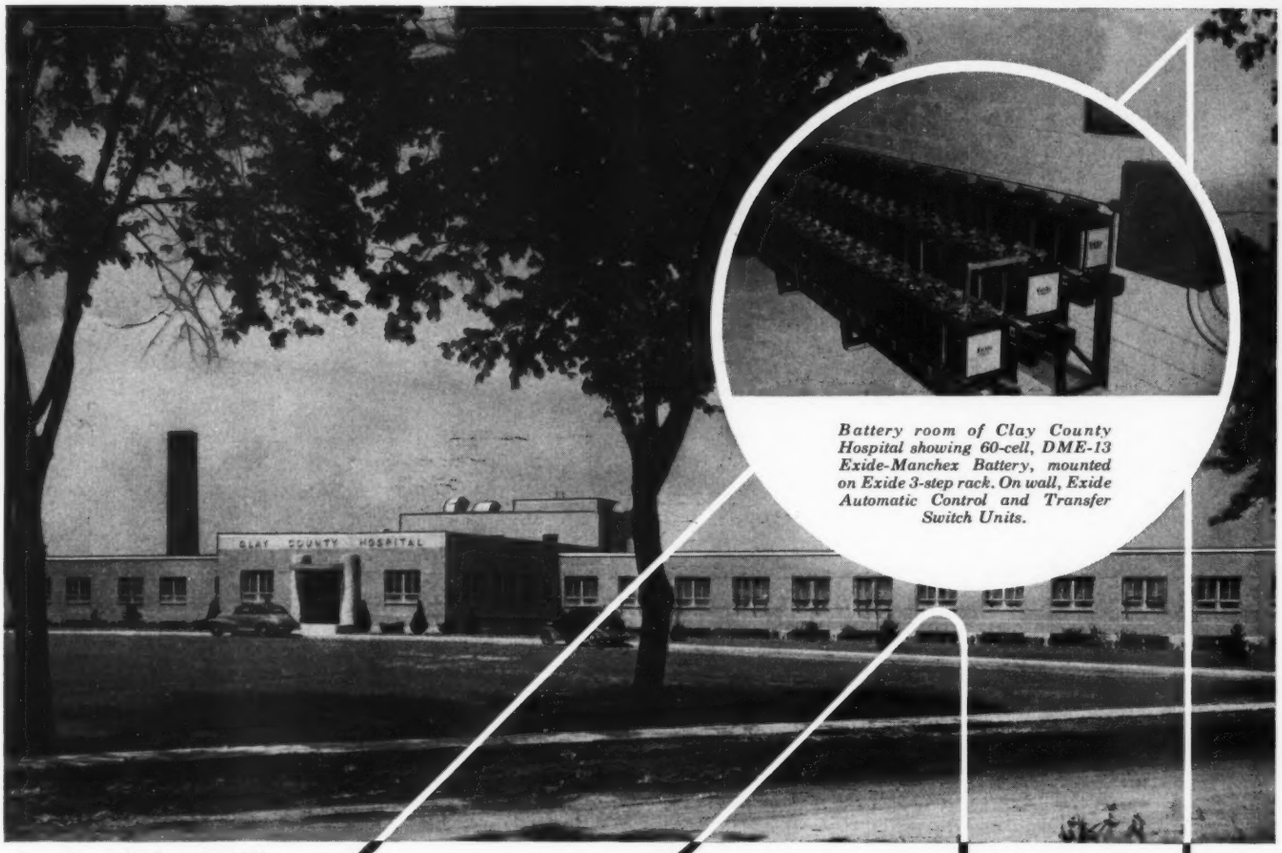
3. In any classroom in which the window downdraft is not adequately protected by the unit ventilator alone, you need the *Nesbitt Syncretizer* and *Wind-o-line Radiation.*

Wind-o-line fin-and-tube radiation is installed to extend from both ends of the unit ventilator for the full length of the windows, at the sill line—and continued, if required, along cold outside walls. It is controlled in cycle with the Syncretizer to release a small quantity of heat—sufficient to temper and raise the downdraft and protect occupants by a "thermal blanket." Wind-o-line may be wall-hung in its own grilled casing, or recessed in a channel of the storage cabinets when such are to be integrated with the Nesbitt Syncretizer.

Send TODAY for Publication 264

NESBITT *Syncretizer* and Wind-o-line Radiation

The Nesbitt Syncretizer, Wind-o-line Radiation, and The Nesbitt Package are sold by John J. Nesbitt, Inc., Phila. 36, Pa., and by American Blower Corporation.



Battery room of Clay County Hospital showing 60-cell, DME-13 Exide-Manchex Battery, mounted on Exide 3-step rack. On wall, Exide Automatic Control and Transfer Switch Units.

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You can install Exide Emergency Lighting as an integral part of the building—in new construction, in remodeling. Units and systems can be supplied for any need—for a few lights or many, for a single building or large group.

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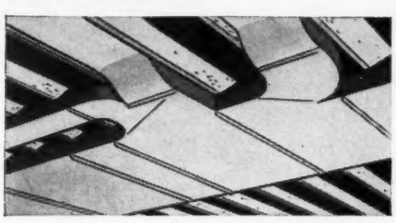
Architectural Service

Aluminum Windows



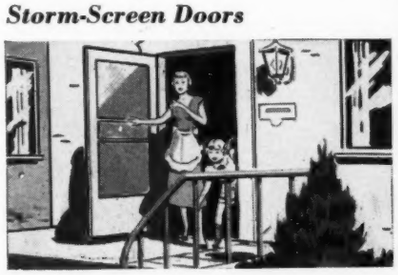
Many fine brands of windows made from Reynolds Aluminum extrusions are available today. In commercial installations they match the white metal trim . . . add durability and minimize maintenance cost. In curtain-wall design lightweight aluminum has decided advantages. In every type of construction, it cuts installation time. Consider the advantages and you'll be sure to specify aluminum windows.

Better Ductwork



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Storm-Screen Doors



Combination storm-and-screen doors of naturally attractive aluminum are approved by FHA for private dwellings. There are many good brands made of Reynolds Aluminum on the market today. Remember, in new buildings, or in remodeling, specify *aluminum*. The slight extra cost pays for itself in longer life and reduced maintenance expense.

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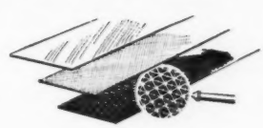
You can get these advantages *plus* specialized help from the Reynolds Architectural Service

When planning your next design, stop and ask yourself what other metal offers the advantages that you find in aluminum. Unlimited design flexibility . . . widest range of finishes . . . light weight . . . great strength . . . rust and corrosion resistance. All these factors mean aluminum is the ideal material for *your* specifications.

Even though the supply of aluminum for building is limited now, the assistance of Reynolds Architectural Service is still yours for the asking. This service is an efficient and economical solution to your design problems. For complete information, call the Reynolds office listed under "Aluminum" in your classified telephone directory.



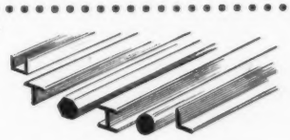
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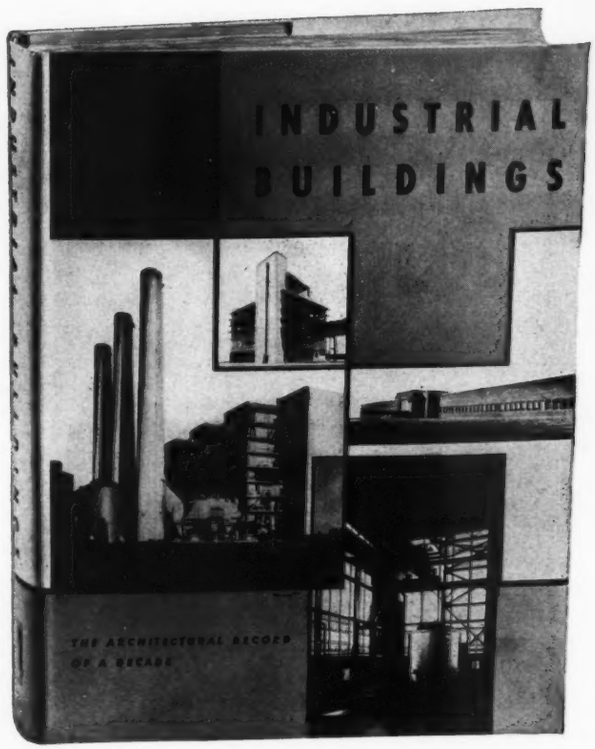
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Also treated are such specialized problems as "Factory Toilets and Locker Rooms," "Rest Rooms and Cafeterias," "Thermal Expansion," "Unit Heaters for Industrial Plants," "Lighting of Industrial Plants," "Color Systems for Factories," "Laboratory Service Piping," "Economical Steel Framing Details," "Docking Facilities for Motor Transports," etc.

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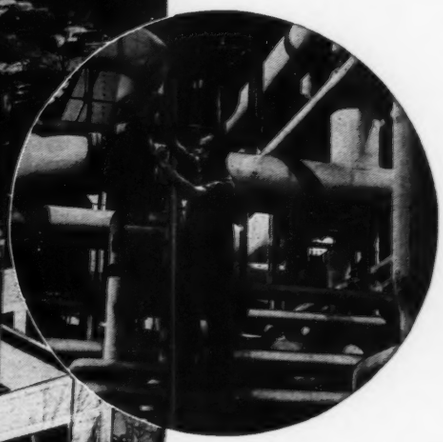
To fulfill its tremendous task of building engines and other aircraft components for defense and civilian needs, United Aircraft Corporation is in an almost continuous state of expansion.

An addition to the power house at the main plant in East Hartford (below) has recently been completed. The $12,000,000 Andrew Willgoos Turbine Laboratory was finished and put in operation on jet research in the past year. Under construction are new plant facilities at the Pratt & Whitney Aircraft Division in North Haven, and the Hamilton Standard Division in Windsor Locks, Conn.

When it comes to plant operation, United Aircraft is right down to earth. To make sure of lasting efficiency and low maintenance in fluid control, they chose Jenkins Valves for all of these new buildings. At the right is a typical valve station in the vast network of piping at the Willgoos Laboratory.

Long a leader in the development and production of piston engines, notably the famed Wasp, the Pratt & Whitney Division is now a major producer of jet engines like the J-48 Turbo Wasp that powers the Navy's new Grumman Panther, shown above.

To keep plant operating costs down to earth



United Aircraft Corporation relies on

On their low upkeep cost record, Jenkins Valves are being specified for more and more of the new industrial plants, the modern commercial, institutional, and municipal buildings that are setting new standards in operating efficiency.

Despite their *extra* value, proved in every type of service, *you pay no more* for Jenkins Valves. For new installations, for all replacements, let the Jenkins Diamond be your guide to lasting valve economy. Jenkins Bros., 100 Park Ave., New York 17, Jenkins Bros., Ltd., Montreal.

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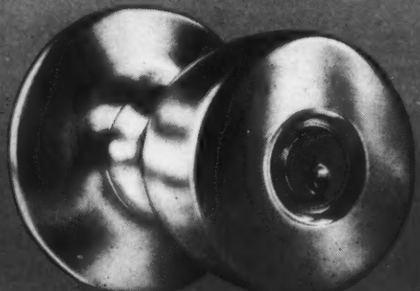
architects asked for it!



the 5/8" throw of bolt on the "Stilemaker"

The extra-long throw of "Stilemaker" locks solves a problem that many architects have had to face . . . it's specifically designed to handle extreme door shrinkage.

In addition to the 5/8" throw, there are many other important features offered by the "Stilemaker" lock . . . all, tangible reasons for the immediate, country-wide acceptance of this new Russwin product. Give your clients their benefits wherever heavy-duty, quality-made cylindrical locks are to be specified. Send for complete details. Russell & Erwin Division, The American Hardware Corporation, New Britain, Connecticut.



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Knob Styles . . . in wrought or cast brass or bronze

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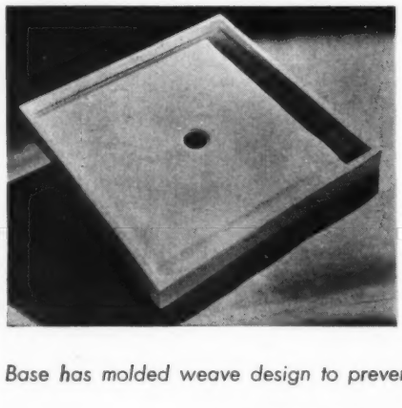
"Stilemaker"

BY THE MAKERS OF THE ORIGINAL KEY-IN-THE-KNOB LOCK

PRODUCTS (*Continued from page 199*)

Plastic Shower Stall Base

The *Tuf-Lite* receptor, a shower stall base molded of Laminac Resin reinforced with Fiberglas, affords features which, according to the manufacturer, have never before been combined into a single model. The receptor is very light, weighing but 20 lbs compared to the 300 lbs of average terrazzo receptors and the 80 lbs of the ordinary steel base. This feature is said to facilitate handling, shipping and installation. Seamless construction of the one-piece molded base is reported to do away with the need for lead-pan insulation and to assure freedom from leaks for the lifetime of the product. A simulated basket-weave design molded into the matte surface of the base is cited as insurance against skidding accidents. The strong, lightweight reinforced plastic, from which the receptors are molded, has been used, among other things, for the hulls of army boats subjected to rough wear, and has been proved successful. Available in a variety of colors, the bases reportedly never need painting or refinishing and will not crack, chip, peel or rust. Kaytel, Inc., 40 E. 40th St., New York 16, N. Y.



Base has molded weave design to prevent slipping

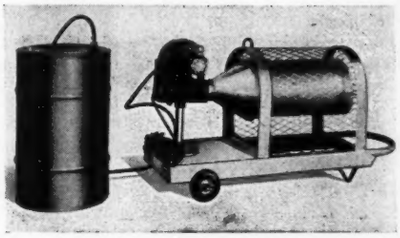
Portable Oil-Fired Heater

An automatic portable oil-fired radiant heater, the *Eco-Temp* is said to require only plugging into a regular 110 v 60 cycle single phase electrical connection. The heater burns No. 2 fuel oil at the rate of 1.35 gal. per hr. The oil is fed from an oil drum which is connected

(*Continued on page 309*)

PRODUCTS *(Continued from page 308)*

to the heater by hose of any desired length and which may be placed anywhere to suit specific needs. Output of the heater is 189,000 Btu per hr. It weighs 175 lbs and can be moved about



Portable radiant heater is fed directly from oil drum

like a wheelbarrow. Dimensions are: 48 in. long, 18 in. wide and 31 in. high. The heater is especially recommended by the manufacturer for drying of surfaces and materials as well as products needing continuous heat, for thawing frozen areas and moving parts, for warming-up equipment and for space heating in a variety of locations. Arthur C. Baumann, Dept. C, 7011–21 Grays Ave., Philadelphia 42, Pa.

New Furniture Line

Recently introduced to the furniture market, the *Skyline Group* was designed to be arranged in varying formations for different wall spaces or stacked one piece on top of another, thus being adaptable to a one-room apartment or to a larger household's necessity for separate living, dining or bedroom furniture. Constructed of solid Philippine mahogany, the pieces included in the group consist of various sized chests and dressers, a vanity-desk, two styles of beds, bookcases with sliding glass panels, a hutch cabinet with sliding glass panels, dining chairs and two styles of dining tables: a drop-leaf and an extension. Legs on storage pieces are easily removed for stacking, and case bottoms are provided with felt pads to prevent marring. Small brass pulls are used on the chests, and the furniture is said to be both water and stain resistant as well as dustproof. Showers Bros., Bloomington, Ind.

(Continued on page 310)

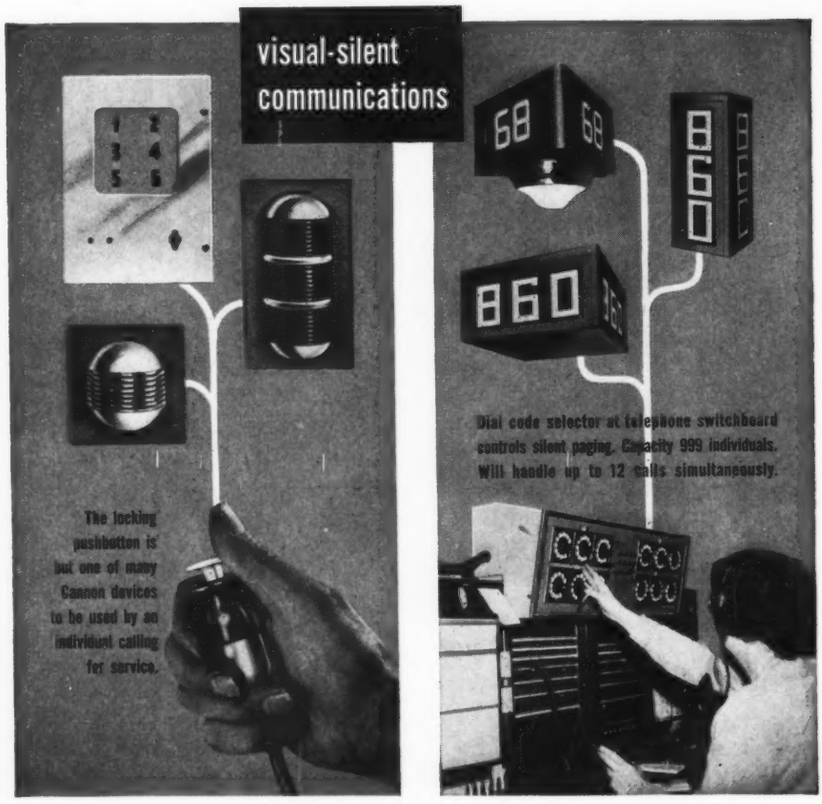


CANNON signal systems

VISUAL-SILENT COMMUNICATIONS for individual service or for general paging purposes have been highly developed by Cannon Electric over a 35-year period.

The Visual-Silent method may be used in conjunction with an audible system if desired. There are many areas where the Visual-Silent system is far superior, such as hospitals, restaurants and department stores or where the noise level is too high for practical operation of an audible system, for instance in machine shops, factories or other production areas.

The two basic approaches to Cannon Electric's Visual-Silent communications are illustrated here. (1) the individual requiring service (below, left) (2) the general paging of numerous individuals in large areas or in a group of buildings (right).





The great diversification of the equipment and the variations of installations to serve many signaling requirements are described and illustrated in this new 32-page bulletin available on request. Address Dept. B-122, Cannon Electric Company, P. O. Box 75, Lincoln Heights Station, Los Angeles 31, Calif.

CANNON ELECTRIC

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CANNON ELECTRIC COMPANY, LOS ANGELES 31, CALIFORNIA

Factories in Los Angeles, Toronto, New Haven. Great Lakes Division, Benton Harbor, Michigan. Representatives in principal cities.

PRODUCTS

(*Continued from page 309*)

Prefabricated Copper Expansion Joint

An 18 oz *Chase* copper joint to provide for expansion and contraction of copper flashings at the base of parapet and main building walls is said to permit replacement of more costly methods of providing such protection. The new prefabricated joint is formed at an angle to fit exactly the standard dimensions of copper base flashing. It has a 4 in. horizontal leg and a 12 in. vertical member. Open seams on the edges of the joint reportedly permit fast, easy interlocking and soldering of adjoining lengths of



Joint fits standard flashing exactly

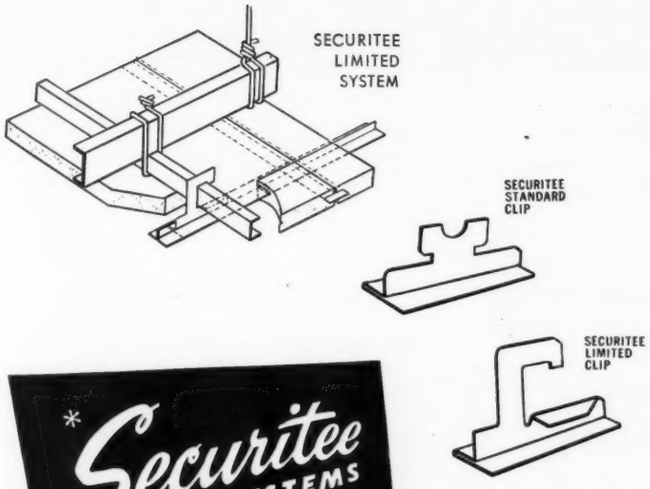
base flashing. A half-circle of approximately 1 in. diameter runs down the full length of the member and permits base flashing to move in accordance with temperature changes without buckling or cracking. The joints are designed to be placed at a maximum of 24 ft apart along the flashing. Either plain or ribbed copper cap flashing can be used with the joint, and a prefabricated "cap box" furnished with each joint attaches to the cap flashing as a protective cover for the half-circle in the joint. Chase Brass & Copper Co., 236 Grand St., Waterbury 20, Conn.

(*Continued on page 312*)



Great American Reserve Insurance Building, Dallas, Texas
Architect—George L. Dahl, Dallas, Texas
Contractor—J. E. Morgan & Sons, Dallas, Texas
Acoustical Contractor—Blue Diamond Co., Dallas, Texas
Acoustical Tile—Simpson Acoustical Tile mfr'd by Simpson Logging Co., installed on Securitee Limited System

urability



A Securitee System* installation is one that combines ***Quality*** and ***Durability.*** Thousands of trouble-free, level ceilings from coast to coast substantiate this statement daily.

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See Sweet's Architectural File or write direct for complete technical data

* Securitee SYSTEMS

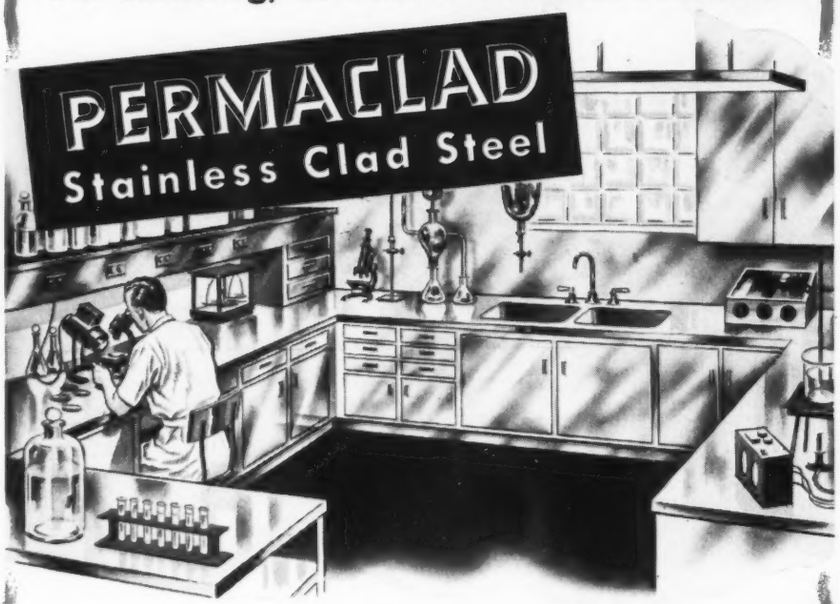
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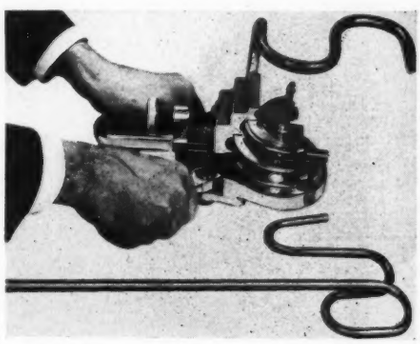
Other Products: A.W. ALGRIP Abrasive Floor Plate • A.W. SUPER-DIAMOND Floor Plate • Plates • Sheets • Strip • (Alloy and Special Grades)

PRODUCTS

(*Continued from page 310*)

Small-Size Bending Tool for Three Pipe Sizes

The model 1200 "3 in One" is a new addition to the *Tal Bender* line. Described as fast and simple to operate and requiring no supplementary vise or fixtures, the little tool is reported to make perfect offsets and bends up to 180 deg in $\frac{3}{8}$, $\frac{1}{2}$ and $\frac{5}{8}$ in. O.D., K and L copper tubing, brass, steel, and other light gauge tubing. Made from a strong,



Light-weight bending tool makes offsets and bends in three sizes of tubing, requires no accessory parts

light metal, the tool weighs only 5 lbs and requires no accessory parts. It is cited by the manufacturer as being especially valuable for making refrigeration and radiant heating coils, and for airplane manufacturers, repair shops and all other places where copper tubing is to be bent. Tal Bender, Inc., 417 N. Water St., Milwaukee 2, Wis.

Masonry Water Repellent

Recent tests of *Ranetile 11*, a silicone-base water repellent developed after extensive research, are reported by the manufacturer to have convincingly demonstrated the effectiveness of the new product. The repellent is for surface application to exterior masonry above grade and is said to afford a high degree of protection to such surfaces. Results of the complete series of tests are available on request. Ranetite Mfg. Co., 1917 S. Broadway, St. Louis 4, Mo.

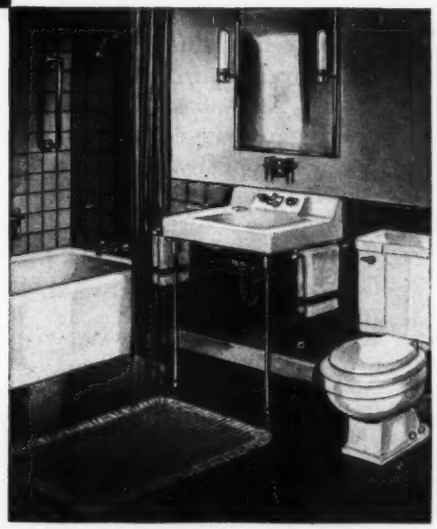
(*Continued on page 314*)

NEW THE CRANE BEVERLY



- Styled by Henry Dreyfuss — smart, clean lines and made of gleaming vitreous china.
- Spacious basin in moderate overall size (20 x 18″). Ideal for small homes or for supplementary bath in larger homes.
- Chromium-plated Crane *Dial-ease* controls conveniently located on beveled panel.
- Available with or without legs or towel bars.
- Groups perfectly with other Crane fixtures. The new *Beverly* is shown below with Crane's *Oxford* closet and *Neuday* tub.

DISTINCTIVE STYLING
—AT A BUDGET PRICE



You'll want to remember this compact, distinctively styled lavatory. You'll want to consider it the next time you meet a problem where space is limited and cost must be kept low—but where quality and style are deciding factors . . . .

The new Crane "Beverly" is ideal for housing projects or for supplementary bathrooms in larger homes . . . Available now. Consult your Crane Branch or Crane Wholesaler.

CRANE CO. GENERAL OFFICES: 836 SOUTH MICHIGAN AVE., CHICAGO 5

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DISPLAY MATERIAL . . . just like other merchandise . . . looks better and sells faster when effectively highlighted. And for really superior, economical accent lighting there's nothing like Amplex Swivelites.

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Industrial Infra-Red Lamps

AMPLEX

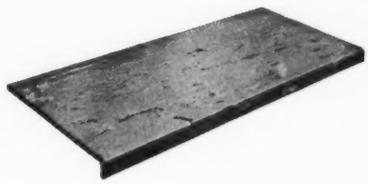
Sealed-Beam Reflector Lamps, Colorbeam Lamps, Spotlites and Floodlites, Industrial Infra-Red Heat Lamps, Vibration and Rough Service Lamps, Street Lighting Lamps, Traffic Signal Lamps, Incandescent Lamps, Fluorescent Tubes, Display Accessories.

PRODUCTS

(*Continued from page 312*)

Heavy Duty Rubber Stair Tread

Designed especially for stairs that are subject to heavy traffic and wear, a heavy duty *R.C.A.* stair tread is available for installation wherever conditions make the need for such a tread important. Molded in one piece, ¼ in. thick, with smooth top face having square or round nosing, the tread is 13 in. wide and is made in standard lengths



Molded stair tread is available in variety of sizes and colors

of 36, 48, 60 and 72 in. Other lengths are available on special order. Colors include: brick red, green and light grey, all mottled with black and white; mahogany mottled with red and white; black and white mottled; and dark brown with white mottling. R.C.A. Rubber Co., 1834 E. Market St., Akron 5, Ohio.

Vertical Lift Door

Fabricated of 18, 16 or 14 gauge hot-rolled or galvanized steel with built-in, independently reinforced, rigid sections, the *Continental* all-steel vertical lift door, reportedly can withstand both hard abuse and adverse weather conditions. The door can be operated either manually or by motor control. It is said to be fire, burglar, weather and vermin proof, and is not subject to splitting, sagging, warping or rotting. A special coat of protective paint is applied at the factory. The doors are custom-made to meet any size requirement and can be weatherized in accordance with desired indoor temperatures. Glass may be installed in separate specified panels or throughout, as desired. Continental Wire and Iron Works, 1248 S. Ashland Ave., Chicago 8, Ill.

(*Continued on page 316*)

"Here's a chap worked 65 years... late only once!"

"In the future I hope he'll be more punctual!"



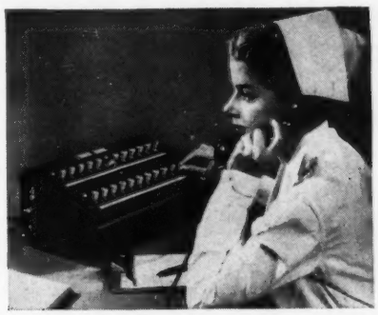
Perfection, philosophers say, is unattainable. But in designing Edwards signaling equipment, we keep striving for it. That's why today . . . and for the past 80 years . . . we've never been satisfied . . . that's why we keep everlastingly at the job of staying a step ahead through pioneer research and scientific planning. That's why we make Edwards equipment as dependable, trouble-free, efficient as human ingenuity can . . . nearly perfect as possible.

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Dependability is the watchword of America's hospitals. Edwards contributes generously to that dependability.



Edwards "Soft Speaking" Nurses' Call Systems assure prompt, step-saving attention to patients' needs at all times. Crystal-clear in tone yet so sensitive they transmit the weakest voice, these dependable systems operate on standard accessories. No special wiring needed.

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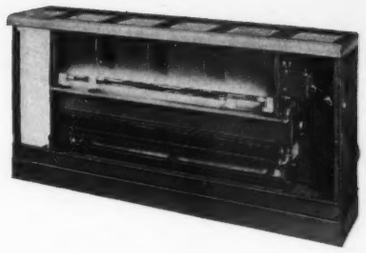
Protecting life and property throughout, dependable fool-proof ***Edwards Fire Alarms*** are functional as they are smart with their snug, wall-hugging compactness.

For further information, write Dept. A-2, The Edwards Company, Inc., Norwalk, Conn.

PRODUCTS
(*Continued from page 314*)

Classroom Unit Ventilators With Germicidal Lamps

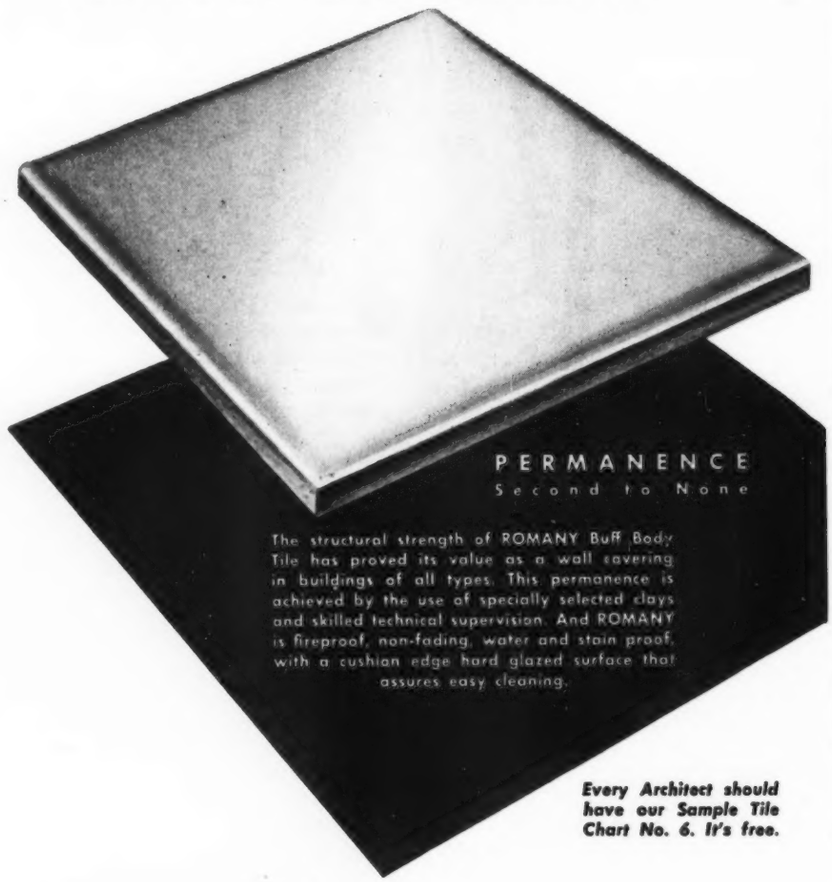
Described by the manufacturer as an important development for the health and protection of school children is the recent inclusion of germicidal lamps as an integral accessory for all models of *Herman Nelson* unit ventilators. The development is the result of coordinated research and testing by engineers of Herman Nelson and research specialists of General Electric. Tests at G.E.'s Nela Park laboratories were reportedly successful enough in obtaining a high bacteria kill that it was decided to make the equipment available immediately. Recent studies of ultraviolet rays are cited as having demonstrated that disinfection by the rays provides air equivalent to outdoor air, and it is reported that installation of germicidal lamps in unit ventilators in effect doubles the amount of pure air available for each child in the classroom. Relatively crowded conditions of schools today are pointed out as making the need for bacteria killing equipment of prime importance. Herman Nelson Div., American Air Filter Co., Inc., 1824 Third Ave., Moline, Ill.



Pure air for crowded schoolrooms is provided by germicidal lamp in ventilator

ROMANY TILES
ARE REAL TILES

POINTS OF EXCELLENCE (1)



Every Architect should have our Sample Tile Chart No. 6. It's free.

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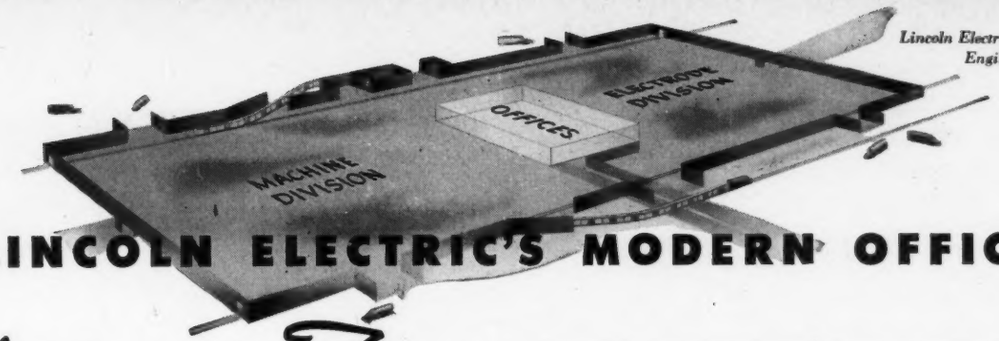
Wallboard Tape

An improved *Marvan* wallboard tape for dry-wall gypsum board joint construction features an all-over sanded surface. According to the manufacturer the tape affords superior bonding qualities and makes a firm joint. Hemp fiber content of approximately 50 per cent is said to result in maximum resistance to stretching or softening when wet. The lay of the fibres is also reported to contribute to increased tensile strength both lengthwise and crosswise. Lateral tensile strength is cited as especially important in preventing edge cracks, since "pull" of wallboard at the joints is across the tape. Crosswise expansion of the tape is only 2 per cent, as opposed to the 4 per cent permitted by usual specifications, and lengthwise stretch is 18/100ths of 1 per cent per ft. Evenly spaced perforations are said to be of a size to release any air which might be trapped under the tape. They also provide extra holding power, the manufacturer states, and they "anchor" the tape in 144 places per ft. The Marvan Corp., P.O. Box 19, West Hartford, Conn.

Cylindrical Lock

Designed specifically for schools, office buildings, hospitals, commercial and institutional buildings, a heavy-duty *Russwin* cylindrical lock line is now available. The design incorporates a full 5/8 in. latch throw bolt, a seamless tubular knob shank that assures full torsional strength, double knob flanges

(*Continued on page 318*)



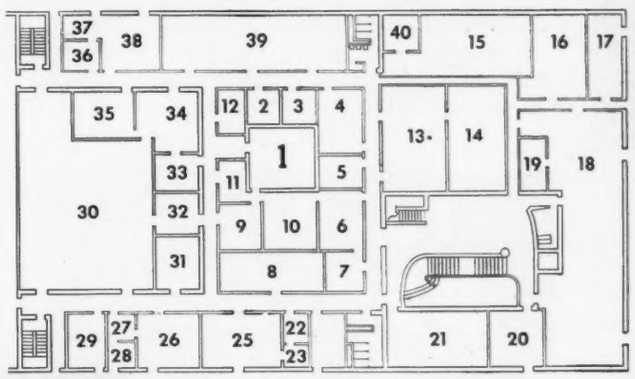
Lincoln Electric Company, Cleveland, Ohio
Engineers and Builders:
The Austin Company.

IN LINCOLN ELECTRIC'S MODERN OFFICES

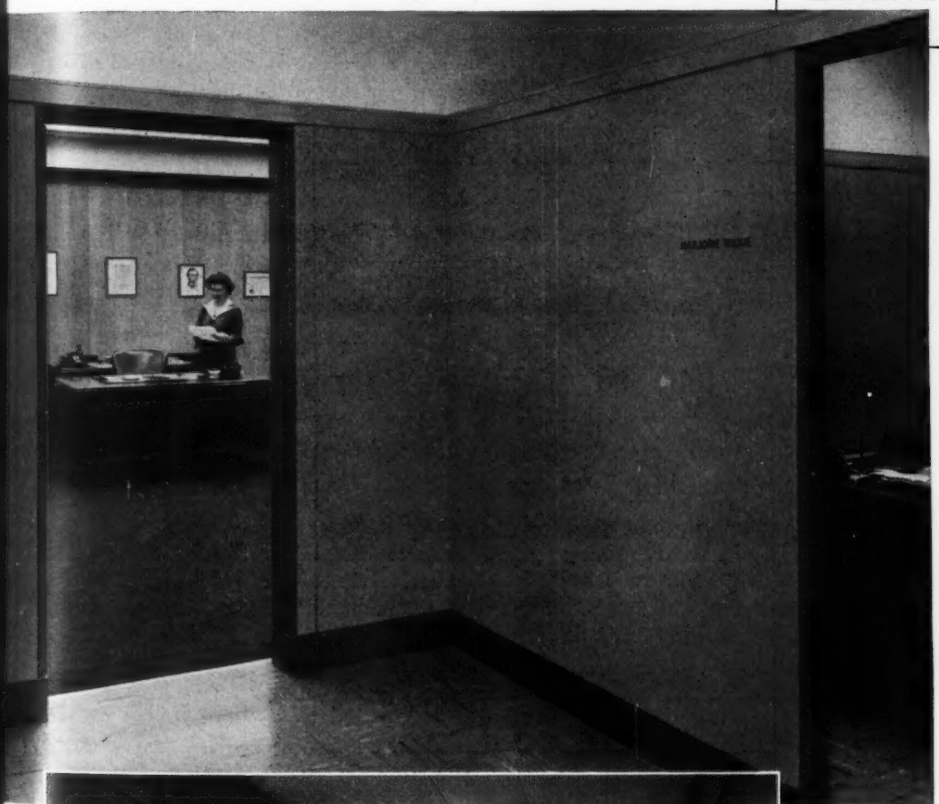
Efficiency First

has been made lasting with

MILLS *Movable* **WALLS**



Office Layout





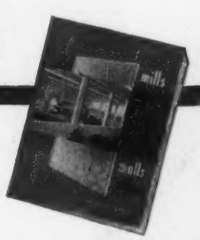
Lincoln Electric Company's new 20-acre plant is designed for maximum efficiency in every area, for office as well as production operations. All offices are located in the center of the factory building, with the president's office, *No. 1 in floor plan and pictured at left*, in the exact center of everything, surrounded by key personnel.

Future efficiency is assured by subdividing all office space with Mills Movable Metal Walls. As progress creates changes in space requirements Mills Walls can be moved to fit new layouts—in a matter of hours, with minimum labor, at very low cost and without interrupting normal routine.

Mills Walls combine mobility with distinctively modern and attractive appearance. Insulated and soundproofed, they require no maintenance but occasional washing to keep them looking fresh and bright.

★ ★ ★

Your office space can be made more efficient by *mobilizing* it, through *flexible* interiors formed by Mills Movable Metal Walls. For complete information on this modern, efficient way to subdivide interior space write for this easy-to-read, 48-page booklet, Mills Catalog No. 52.



THE MILLS COMPANY
951 Wayside Road • Cleveland 10, Ohio

PRODUCTS
(*Continued from page 316*)

which develop maximum strength between knob and knob shank, and a cylinder that may be reversed by the removal of one screw. The lock is manufactured in two knob styles, either cast or wrought metal, and in a variety of finishes. Russell & Erwin Div., American Hardware Corp., New Britain, Conn.

Mechanic's Protractor

Designed for on-the-job measuring of angles up to 180 deg, the *Wolfe* mechanic's protractor is said to be especially useful for engineers, carpenters and construction men. The device is made of Vinylite plastic rigid sheet said to have great dimensional stability and to be resistant to water, oil, grease and most chemicals. The plastic sheet can be cleaned with a damp cloth and calibrations are protected by a lamination of plastic. These calibrations are located at the extreme of the protractor's radius



Plastic protractor measures angles up to 180 deg, affords three simultaneous readings with a single setting

to facilitate accurate readings. With a single setting, the protractor gives three simultaneous readings — for outside angle, adjacent inside angle and in. per ft against deg. For inaccessible acute angles, a straight edge may be used to extend one side of the angle, and where it is altogether impossible to use the protractor, the angle may be taken with a carpenter's bevel and the angle of the bevel measured with the protractor. Interstate Sales Co., 123 E. 18th St., New York 3, N. Y.

For day in, day out
DEPENDABILITY
you can't beat a



PAT. NO. 2,297,928

Name your job . . . any air conditioning job requiring from 3 to 50 tons . . . and you'll find that you can't beat a Governair system for day in, day out dependability.

Governair Packaged Air Conditioners are designed to operate at peak efficiency—with all parts precision-matched to work together. And they're built to give years and years of low-cost trouble-free service.

Choose Governair . . . and you choose the best!



AIR CONDITIONERS | EVAPORATIVE CONDENSERS | COOLING TOWERS | UNIT COOLERS | BLAST COILS FOR HEATING AND COOLING

GOVERNAIR

Service Offered to Architects on Selection of Wallcoverings

As a service to architects and contractors, the firm of Architects Wallcoverings, Inc. has gathered together a selected group of wallcoverings from leading manufacturers, chosen to suit the architects' needs. The material they have chosen includes a variety of colors and ranges from washable and plastic papers to fabric-backed textures. These samples have been compiled into a shelf-size catalog, which enables the architect to select a wallcovering right at his desk; thus eliminating the necessity of going to numerous firms and consulting various different catalogs. The samples are arranged according to color as an added convenience. Although there is no charge for the book, a small deposit is requested, which is deductible from purchases aggregating a specified amount. To place an order from the book necessitates only a notation of the pattern number found on the back of the sample sheet, plus the desired number of rolls. Architects Wallcoverings, Inc., 250 Fifth Ave., New York 1, N. Y.

(*Continued on page 320*)

RECOMMENDED COMBINATION
For Lighting Heavy-Industry Plants

HOLOPHANE Lighting Equipment and MERCURY Lamps

•

HIGH BAY LIGHTING

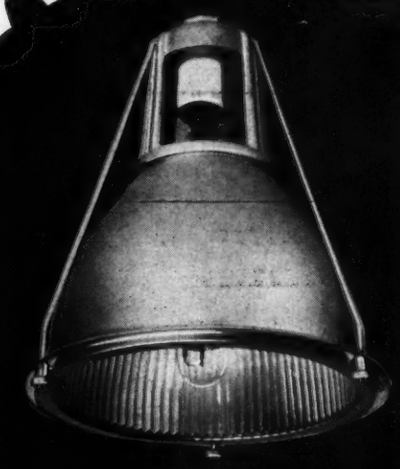
HIBAY* lighting applies to mounting heights exceeding 25 feet and finds its primary use in Mills, Shops, Hangars, etc. Equipment is designed for 500, 750, 1000 and 1500 Watt Incandescent lamps as well as for the newer type 400 and 1000 Watt Mercury lamps. Heavy-duty rugged construction guarantees safe, trouble-free operation.



No. 693-AL-HS

LOW BAY LIGHTING

LOBAY* lighting with its variety of light distributions — concentrating, intensive and extensive — features prismatic reflectors for all kinds of light manufacturing. Designed with and without aluminum covers, these reflectors use Incandescent and Mercury lamps. The wide selection of light patterns produces highest illumination for any arrangement of machinery or equipment.



No. 645-AL

OUTDOOR LIGHTING

REFRACTOLENS* units, applicable for many outdoor uses, can be flushed in the wall or mounted. Smooth on the inside surface with the prismatic optics sealed in an airtight chamber, they give 180° lateral spread. Designed for Incandescent (100–1000 watt) and the 400 E-H1 Mercury, high illumination level is provided over large areas requiring wide spread of light.



No. U-850

Based on the economical operation of mercury in combination with incandescent lamps or mercury alone with incandescent stand-by, Holophane has developed HIBAY, LOBAY, and Outdoor Lighting Equipment designed for the severe conditions typical of steel mills and other heavy-industry plants. Twin and triple units are also available.

Holophane
Trade Mark

*Reg. U. S. Pat. Off.

HOLOPHANE COMPANY, INC.

Lighting Authorities Since 1898 · 342 MADISON AVENUE, NEW YORK 17, N.Y.

THE HOLOPHANE COMPANY, LTD., THE QUEENSWAY, TORONTO 14, ONTARIO

PRODUCTS
(*Continued from page 318*)

Heat Absorbing Glass

Solex, a greenish tint glass which absorbs the sun's heat and is said to reduce eyestrain and to minimize fading and bleaching of fabrics is a new development of the flat glass industry. It has been predicted that the new product will soon replace colorless glass where it is desirable to reduce heat passage and glare. In the coming year, it is expected that the new glass will be used widely, in public building construction as well as in automobiles and other vehicles. Eventually it is expected to be used in houses as well.

The glass may be bent, laminated or tempered for use in almost every type of flat glass application. It is reported to reduce intensity of solar radiation without sacrificing light transmitting characteristics of high quality glass. Reductions of temperature of approximately 10 to 20 F in rooms with the new glass have been cited, and eyestrain is also reduced since the red portion of the solar spectrum is absorbed by it. The glass is described as having a wide range of possible applications for building. It is said to be ideal for use in southern and western exposures of all kinds of buildings and to be of great value in industrial and commercial buildings where penetration of too much solar heat through windows is dangerous or inconvenient. It can also be used advantageously for show windows. The glass can be used as the exterior pane in a dual-glazed window unit, with regular glass used for the interior pane. Such a unit is said to have a material insulation value, reducing heat gain in summer and lowering heating costs in winter. Pittsburgh Plate Glass Co., 632 Duquesne Way, Pittsburgh, Pa.



New glass is especially useful where reduction of solar heat is essential

Long-wearing Floor Surfacing Material

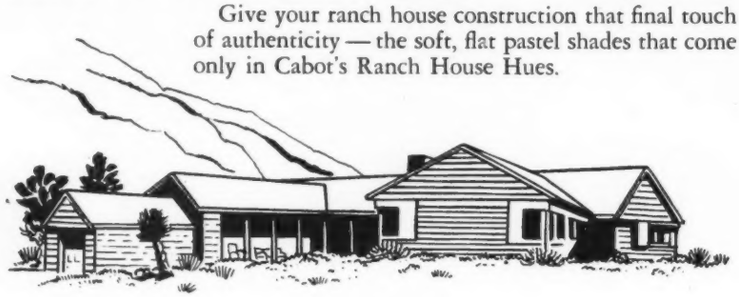
Reported to wear three times as long as ordinary concrete, *Awog* floors are also said to resist such common floor disintegrators as acid, water, oil and grease. Durability is attributed to tight, close-knit composition of the surfacing, which has almost no voids or pores. Liquids are said to be unable to penetrate the surface to attack the bonding element. The product is recommended for new floors, for overlays or repair of broken areas over brick, stone or wood, or for repairing and resurfacing of areas of any size, both interior and exterior. The material, according to the manufacturer, sets up a smooth, case-hardened, dustless surface which is sanitary and easily cleaned, and which will withstand grueling loads, steel wheels and other hard wear. Flexrock Co., 3620 Filbert St., Philadelphia 4, Pa.

(*Continued on page 322*)

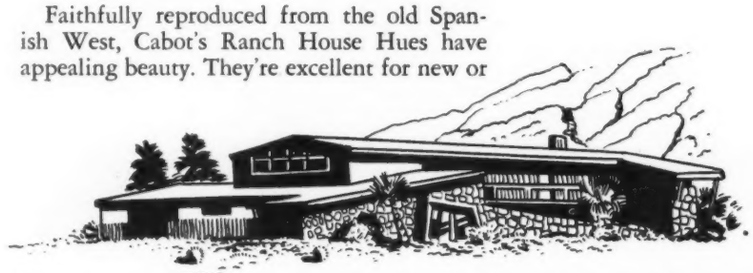


CABOT'S Ranch House Hues

Give your ranch house construction that final touch of authenticity — the soft, flat pastel shades that come only in Cabot's Ranch House Hues.



Faithfully reproduced from the old Spanish West, Cabot's Ranch House Hues have appealing beauty. They're excellent for new or



weathered redwood, pine, fir, cedar, Philippine mahogany and other woods. Have effective hiding power and show the attractive texture of exterior woodwork, siding, shingles, clapboards.

WRITE TODAY

for color card showing new Ranch House Hues, available from no other source in Salinas Fawn, Mimosa Yellow, Sombrero Buff, Sagebrush Gray, Hacienda Gray, El Capitan Gray, Sequoia Red and Pipestone Red.

SAMUEL CABOT, INC.
229 Oliver Building, Boston 9, Mass.

Something UTTERLY NEW in acoustical materials...



Acousti-Celotex RANDOM PATTERN Perforated Tile

Utterly new and "different" in appearance, Acousti-Celotex RANDOM PATTERN Perforated Tile enables you to create dramatically beautiful decorative effects impossible with any other Sound Conditioning material.

It owes its unusual charm to its sharply profiled perforations of varying sizes, arranged in random fashion. And to its rich, linen-like surface that gives better light diffusion.

But beauty is only part of the story. Acousti-Celotex RANDOM PATTERN Perforated Tile also has high sound absorbing value. And like all Acousti-Celotex Cane Fibre Sound Conditioning Products, it has a *new washable finish* of remarkable durability.

Note the interesting, varied charm of new Acousti-Celotex RANDOM PATTERN Perforated Tile. It lends a new note of beauty to any restaurant, theatre, office, hospital, school, church.

Applied in two coats under the pressure of a hot knurling iron, this tough and flexible new finish actually becomes an integral part of the tile. Keeps its smart, soft-white beauty through many, many washings.

Ask your Distributor of Acousti-Celotex Products to show you a sample of the new Acousti-Celotex RANDOM PATTERN Perforated Tile. If you don't know where to reach him, write to The Celotex Corporation, Dept. B-22, 120 S. LaSalle St., Chicago 3, Ill. In Canada, Dominion Sound Equipments, Ltd., Montreal, Quebec.

Sound Conditioning is a Sound Investment...

FOR OFFICES • FACTORIES • STORES • SCHOOLS
HOTELS • HOSPITALS • CHURCHES • BANKS

ACOUSTI-CELOTEX
TRADE MARK REGISTERED U. S. PAT. OFF.
Sound Conditioning
PRODUCTS FOR EVERY SOUND CONDITIONING PROBLEM

THE CELOTEX CORPORATION, 120 S. LA SALLE ST., CHICAGO 3, ILLINOIS

IS ALL ARCHITECTURAL PORCELAIN ENAMEL ALIKE?

Worthwhile
There's a Difference in Erie Porcelain Enamel

Yes, there's *extra value* in having the specialized services of the manufacturer's own field engineers . . . own factory-to-job site delivery . . . own trained erection crews . . . plus the reliability of complete drafting, fabrication and porcelain enameling facilities under a *single*, responsible management.

And, with ERIE Porcelain Enamel you receive *guaranteed* workmanship and material . . . weatherproof, acid-resisting enamel . . . corrosion-proof fastenings . . . and, rot-free, chemically treated furring.

To save time and insure best results . . . let ERIE's experienced draftsmen cooperate with you on the preparation of porcelain enamel shop drawings to meet best fabricating practices . . . or, let ERIE assume full engineering responsibility for the porcelain enamel.



Test Erie's Worthwhile Difference on Your Next Porcelain Enamel Job

WRITE FOR FULL INFORMATION

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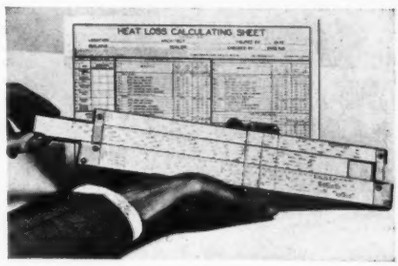
THE Erie ENAMELING COMPANY
1401 W. 20TH STREET
ERIE, PENNSYLVANIA
ENGINEERS • MANUFACTURERS • ERECTORS
Architectural Porcelain Enamel

PRODUCTS

(*Continued from page 320*)

Slide Rule Heat Loss Calculator

Accurate, inexpensive heat loss estimates without the necessity of consulting reference books or charts are said to be made possible by the *Climatemaker* heat loss calculator. The calculator is based on the principle of the slide rule, which it resembles, and is reported to save 11 steps in figuring heat loss. The information which can be determined with the device includes: Btu loss for each room, plus total loss from house; CFM requirements for forced warm air, 200 deg and 175 deg gravity heating units; sq ft of steam or hot water radiation required to heat each room; pipe area, pipe, stack and blower sizes for forced warm air heating systems; pipe area, pipe and stack sizes for first, second and third floors when 200 deg and 175 deg gravity heating systems are employed; line pressure loss; coal and oil furnace and gas burner sizes; cost of heating per season. Climatemaker Heat Loss Calculator Co., Dept. 626, Box 378, Bloomington, Ill.



Heat loss calculator operates like a slide rule, affords quick computations

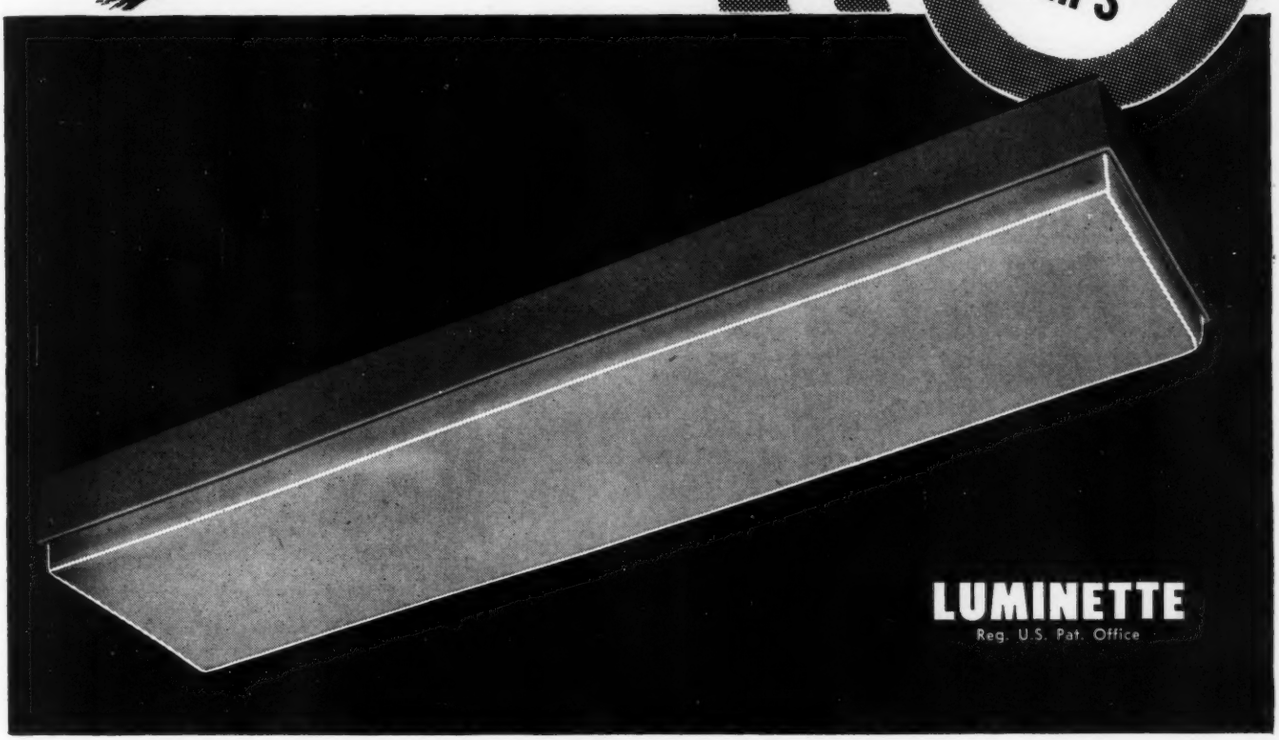
Slip-On Vinyl Gasket

Described as a simple, effective weather-strip gasket for metal casement windows, the *Dustite* gasket is designed with an extruded plastic sealing lip to keep windows tight against dust, rain, drafts and wind. Made of flexible vinyl plastic in a neutral grey color, the gasket can

(*Continued on page 324*)

NEO-RAY SCORES AGAIN with LUMINETTE

NOW AVAILABLE for 48" and 96" LAMPS



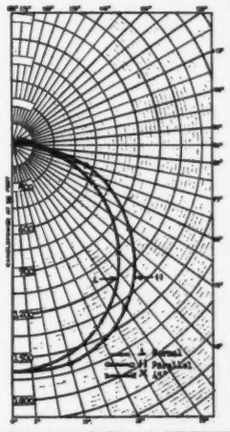
- Direct Unit.
- Perfect shielaing . . . low surface brightness.
- High efficiency 59% with 0.53 utilization factor.
- A clean, streamlined, totally enclosed fixture with no dust catching projections.
- Proven—the Acryloid NEO-REX Shield on our famous 24" LUMINETTE has shown no discoloring in over 6 years in thousands of installations.
- Easy maintenance — shield snaps in, snaps off without tools.
- Available in Recessed 2, 3 and 4 lights, in Surface or Pendant 2 and 4 lights.
- Individual or continuous mounting.

Write for Complete Literature

E.T.L. Report No. 343135

COEFFICIENTS OF UTILIZATION

	Ceiling	75%	50%	50%
	Walls	50%	50%	10%
Room Index				
J		0.26	0.26	0.20
I		0.32	0.31	0.26
H		0.35	0.34	0.30
G		0.39	0.37	0.33
F		0.41	0.39	0.35
E		0.44	0.43	0.38
D		0.47	0.45	0.42
C		0.49	0.47	0.43
B		0.51	0.49	0.46
A		0.53	0.50	0.46



See our catalogue in Sweet's Architectural File for 1952, Sec. 31a/NE

NEO-RAY PRODUCTS, INC., 315 E. 22nd ST., NEW YORK, N.Y.

See Us at Booths 457 and 458, 4th International Lighting Exposition, Cleveland



We asked 488 'Experts' to compare MICROTOMICs with the drawing pencils they were using..

94% VOTED

MICROTOMIC

MORE UNIFORM!

Our 'experts' were engineers, architects, draftsmen, purchasing agents—drawing pencil buyers and users like yourself.

The test they made was to compare the uniformity of 3 MICROTOMIC pencils of the same degree, with that of 3 same-degree pencils they were then using.

459 of them—an amazing 94% of those who made the test—picked the New MICROTOMIC Drawing Pencil as "more uniform"!

What's more, 384 of these 'experts' within a month said they either were 'already using MICROTOMICs', or intended to specify MICROTOMICs on their next pencil order!



EBERHARD FABER

free! Try the 3 against 3 test yourself

MAIL FOR FREE TEST PENCILS!

EBERHARD FABER PENCIL CO., Dept. AR-2
37 Greenpoint Avenue, Brooklyn 22, N.Y.

I'd like to test the uniformity of 3.....degree MICROTOMICs vs. my present drawing pencils.

NAME_____

FIRM_____

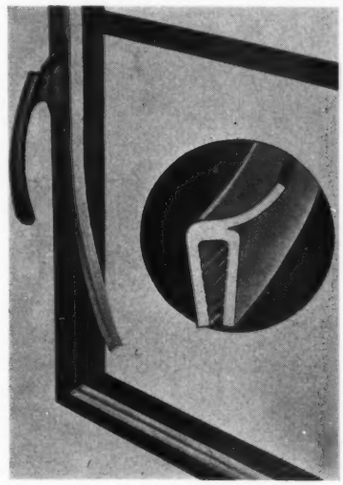
STREET_____

CITY_____

PRODUCTS

(*Continued from page 322*)

be left as is or can be painted to match window frames if desired. Grippers on the inside of the leg-section hold the gasket to the window frame. Installation is described as simple; the average time for normal windows is said to be about 8 minutes per opening. Sold in 38 in. lengths or 50 ft coils, the gasket can be



Plastic gasket has extruded lip to seal windows tightly against elements

butted together at joints like picture molding, so that there is no waste. It reportedly can be left up year round with no danger of deterioration. Dustite Products Co., 6 Canterbury Drive, Dayton 9, Ohio.

Window Fan For Steel Casements

The *Casaire*, a 14 by 16 in. portable window fan, is an addition to the *Rex-Airate* line of window and attic comfort cooling fans. The new model is finished in Hammerloid green and white and reportedly can cool and ventilate up to four rooms quickly and efficiently. Neoprene cushioning serves to reduce noise and vibration and, according to the manufacturer, there is no radio or TV interference from the fan. Installation is described as simple, and features

(*Continued on page 326*)

CURTIS

LIGHT | SOUND

CONDITIONING

SYSTEM

Here is a simplified, integral light and sound conditioning system *with amazingly low initial cost, installation cost, and maintenance cost!*

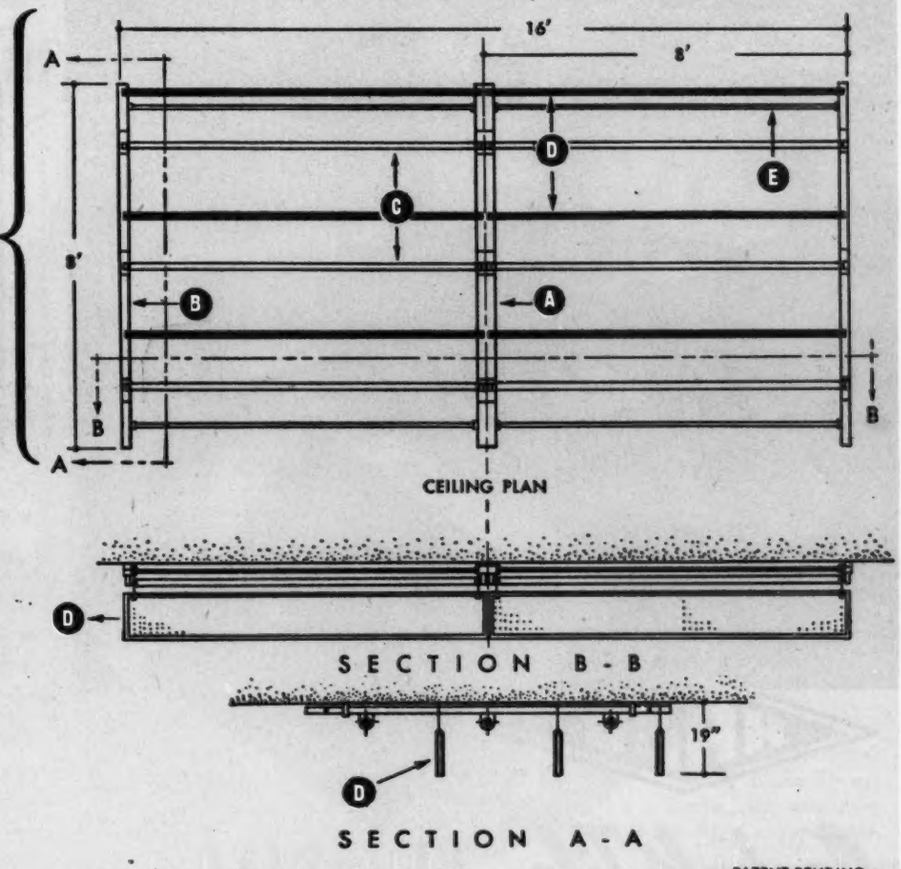
Ideal for schools, offices, auditoriums, stores and other commercial interiors.



This 8" x 12" x 96" packaged section, completely wired and assembled, expands to cover an area of 128 square feet as shown on ceiling plan at right. Sections may be mounted end to end and side by side to accommodate all room sizes.

- **A** Mogul CurtiStrip rolled steel channel houses ballasts, wiring, and supports high voltage lamp holders.
- **B** Smaller CurtiStrip rolled steel channel supports low voltage lamp holders.
- **C** 96", T-12, 72-watt Slimline lamps. May be operated at half-brightness or normal brightness.
- **D** 1' x 8' perforated acoustical panels (both sides perforated) in rolled steel frames.
- **E** Interconnecting lengths of ½-inch tubing. Spaces channels and encloses wiring.

Photograph shows the Curtis Light and Sound Conditioning System with portion of the panels installed. Hinsdale Township High School, Hinsdale, Illinois.



PATENT PENDING

A comprehensive bulletin completely illustrated is now on the press. Send for your FREE copy.

CURTIS LIGHTING, INC.,
Dept. B3-05, 6135 West 65th Street,
Chicago 38, Illinois

Name_____

Company_____

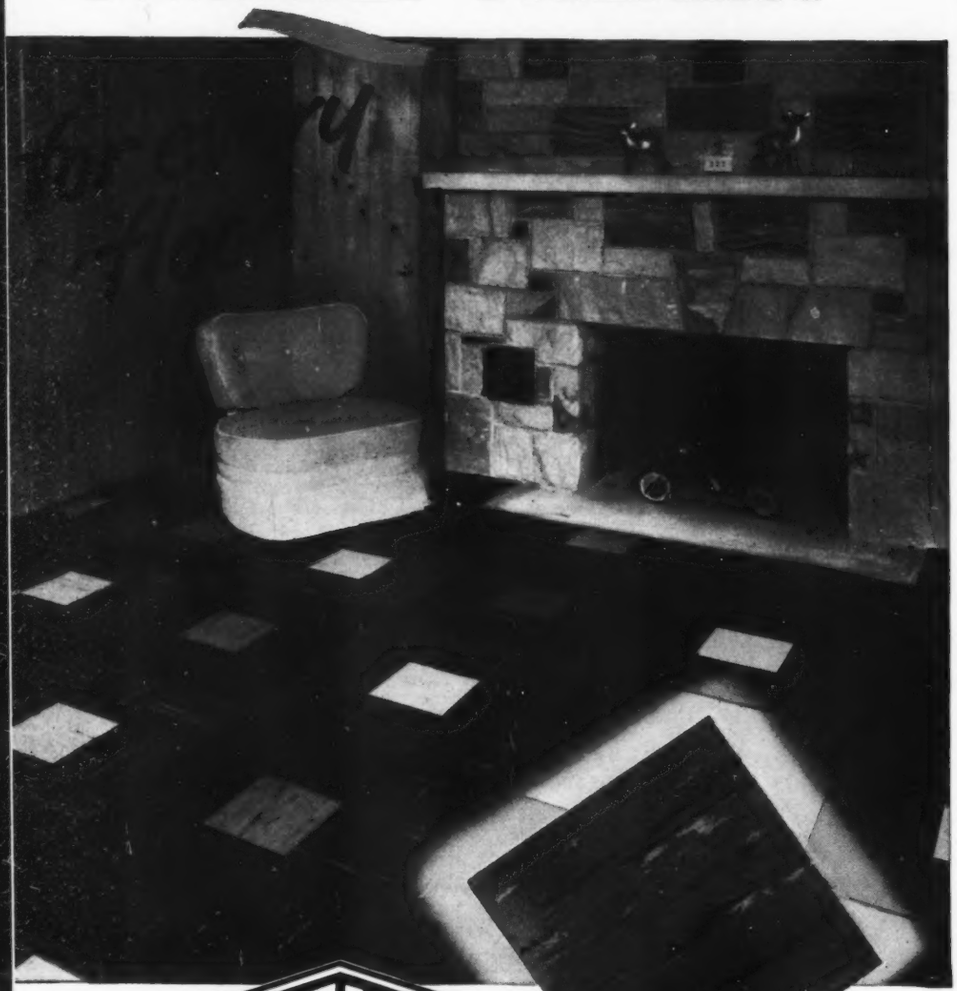
Address_____

City_____ State_____



CURTIS LIGHTING, INC. • Dept. B3-05 • 6135 West 65th Street • Chicago 38, Illinois

DOWN*RIGHT* DURABILITY



HAKO

Sizes Available
9" x 9", 12" x 12" and 18" x 24" in 1/8" and 3/16" gauges

Asphalt Tile FLOORING

FOR INSTALLATION IN

- **Private Homes**
- **Office Buildings**
- **Housing Units**
- **Government Buildings**
- **Churches and Hospitals**

Down*right* durability makes HAKO Asphalt Tile Flooring adaptable to any floor area—in any room—in any building*. It resists the wear of heavy traffic. It can be laid on or below grade. It is inexpensive. It is available in a wide range of clear colors from dark to bright, in solids, pastels and marbleized effects. With HAKO feature strips and insert tiles, design possibilities are unlimited. Each HAKO Asphalt Floor Tile is color-true and precisely square.

SEE OUR CATALOG IN SWEET'S

Exact Specifications are furnished for application on any type of sub floor. See our catalog in "Sweet's".

*Use HAKO *Grease Resistant* Asphalt Tile Flooring where excessive grease is a problem.

\CHMEISTER - INC. Dept. AR
32 Forbes Street
tsburgh 13, Pa.

ease send brochure: "HAKO Asphalt Tile oring" and Architects' "Portfolio of Flooring as", A. I. A. File No. 23D at no obligation.

me.....

dress.....

Zone State

Since 1903

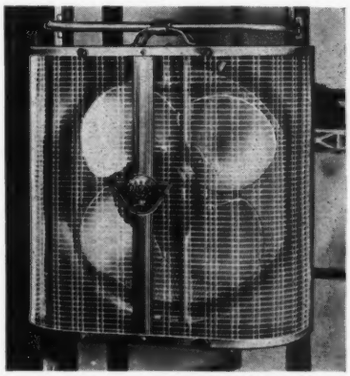
HACHMEISTER-INC.

General Offices
PITTSBURGH 13, PA.

PRODUCTS

(*Continued from page 324*)

include a rear grille and three-way switch. The fan has a sealed life-time lubricated motor and four deep-pitched aluminum blades. Over-all dimensions are: 19 in.



Window fan can cool and ventilate up to four rooms, is simple to install

high, 19 in. wide and 9 in. deep. Weight is 25 lb. Air Controls, Inc., 2310 Superior Ave., Cleveland 14, Ohio.

Compact Air Conditioner

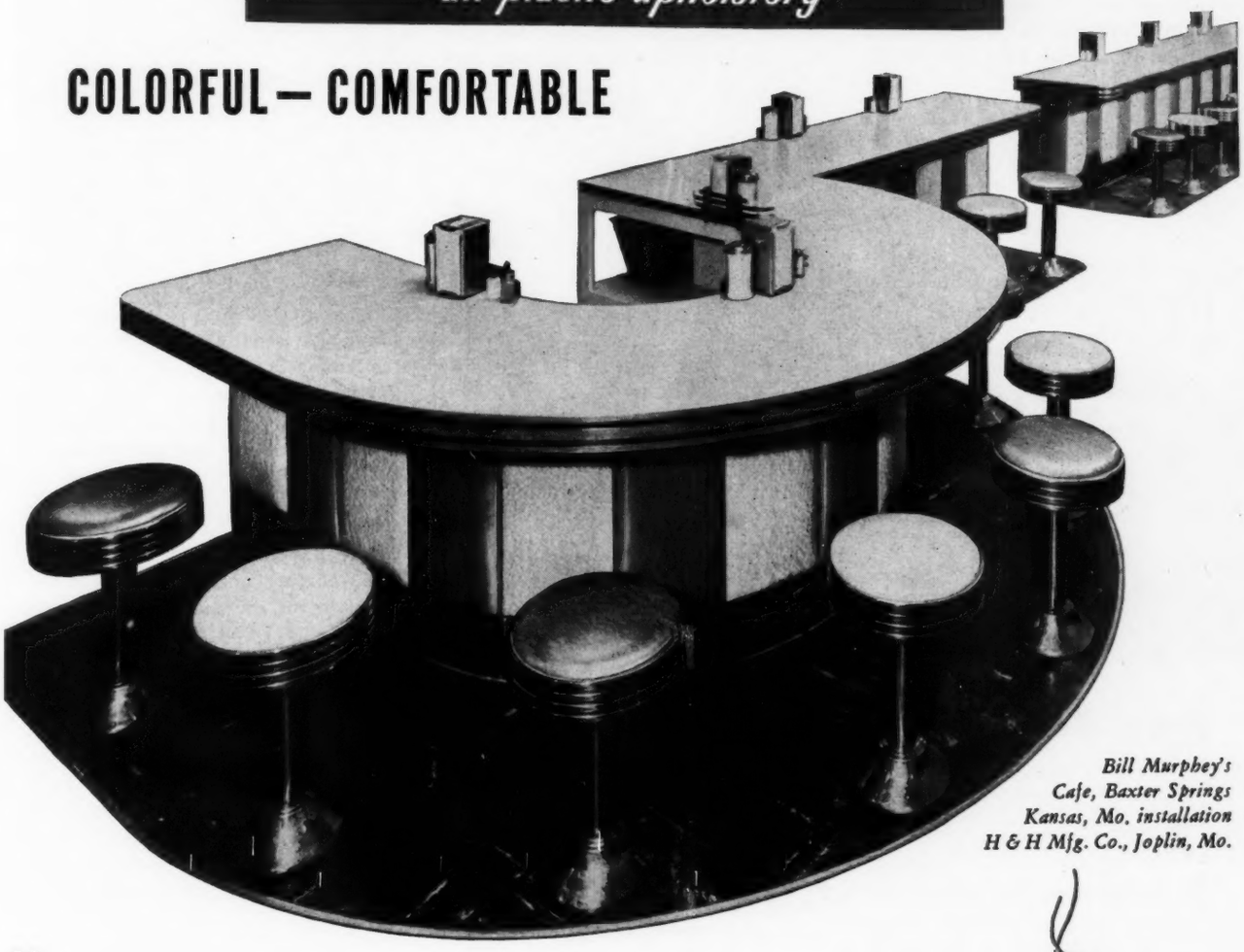
Air conditioned comfort without the sacrifice of any normally usable floor space is said to be afforded by a new, compact, year-round *Trane type AA unit.* Designed especially for space-tight quarters of all kinds, the unit can be installed in furred ceiling spaces, closets, utility areas or normally wasted floor or ceiling spaces. Using chilled or hot water, the unit heats or cools air, dehumidifies it if necessary, and filters it. Centrifugal fans send the conditioned air either through ducts or directly into the room. Said to require minimum service, the unit is available in both upright-vertical and horizontal models. These can be had with base volumes of 200, 400 or 600 cfm, with 4 or 6 row coils. Easy access to the inside of the unit is said to be possible through the insulated casing, and a drain pan protects rugs, walls and floors from condensation. Trane Co., La Crosse, Wis.

(*Continued on page 328*)

"CLEAN UP" with ease...

WITH **Masland Duran*** all-plastic upholstery

COLORFUL—COMFORTABLE



Bill Murphey's
Cafe, Baxter Springs
Kansas, Mo. installation
H & H Mfg. Co., Joplin, Mo.

Keep your customers coming back! Seat them in comfort! Serve them in beauty—and save on maintenance costs. You *can* with smooth, color-bright Masland Duran—so easy to keep clean with occasional use of soap and water. Even sticky food stains wipe off readily. Let Masland Duran pay off for you on stools, booths, seats and counter panelling.



SEE MASLAND DURAN IN JASON *Sealtuft* DESIGNS

THE MASLAND DURALEATHER CO. • Dept. 36, Philadelphia 34, Pa.

**Trade Mark Reg. U.S. Pat. Off.*

PRODUCTS
(*Continued from page 326*)

Chart-Making Kit

Printed gum-backed tapes, tabs and templates which adhere to a rigid sheet of Vinylite plastic are employed in a new *Chart-Pak* kit which is said to provide a simple and time-saving method of making statistical and organizational charts and office plans. Grid lines on the mounting board guide the chart maker in positioning adhesive-backed tapes. These have printed on them figures, months, and a variety of lines, bars, patterns and forms. The charts can be corrected or brought up to date, the tapes may be completely removed if desired, and the finished chart may be reproduced by photostat or photo-offset, since the grid lines on the mounting board are printed in a blue which will not photograph. For organizational charts, additional rectangular box tabs in a variety of sizes are used. Data may be typewritten or printed in these boxes. Templates representing office furniture, equipment and working space, scaled ¼ in. to the foot, are employed for office plans. These may be first laid out and moved about until the desired arrangement is achieved. Then an adhesive-protecting backing is stripped off and the templates are secured to the board. Partition and window designs are also furnished on tape. The materials, available in complete kits or separately, include mounting boards 22 by 32 in. or 12 by 18 in., protective envelopes of clear plastic sheeting for either size board, tape knives, and implements to help remove backing from tabs and templates or for removing tape from boards. Chart-Pak, Inc., 104 Lincoln Ave., Stamford, Conn.

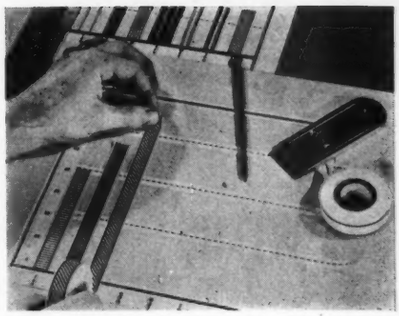
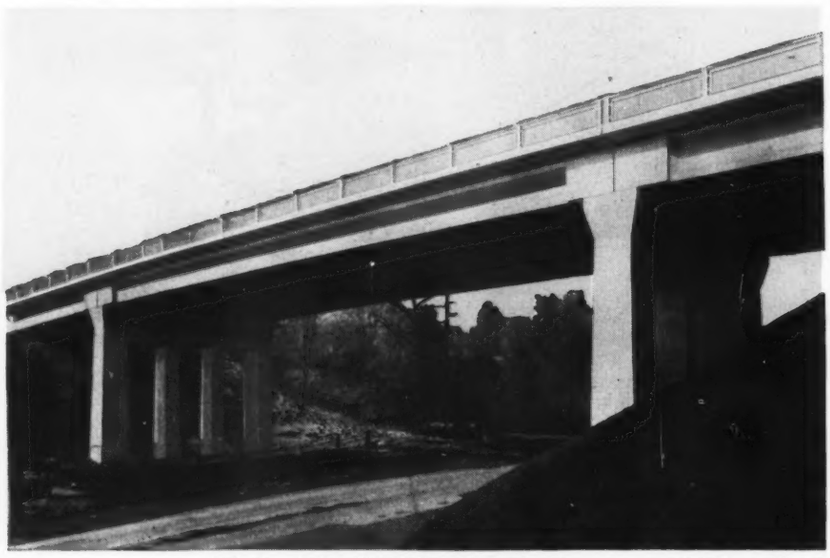


Chart-making kit includes printed tapes and templates, knives, plastic sheeting

Fibre-Surface Underlayment

An underlayment board with a resin-bonded fibre surface, *Plaswood Pre-Lined Underlayment* eliminates customary felt lining and is said to require less adhesive than conventional underlayments. The composition board itself is made of sawdust and other wood wastes bonded under pressure with chemical resins. It can be nailed, sawed or sanded and is suited for use under linoleum, asphalt or rubber tile. It is recommended by the manufacturer that the board be laid over a tongue-and-groove diagonal subfloor with a moisture barrier. The fibre surface is reported to offer, besides features cited above, a firm, smooth working surface, faster application of floor covering, resistance to moisture and abrasion prior to application of floor covering, and easy replacement of floor coverings. Other features of the product cited by the manufacturer include strength, hardness, stability, fire resistance and nail-holding power. Souhegan Mills, Inc., Wilton, N. H.

(*Continued on page 330*)



Walnut Lane Bridge, Philadelphia. First major pre-stressed concrete bridge in the U.S.

Why do you admire this bridge?

The structure you see consists of particles of aggregate and cement, reinforced and, in the girder sections, pre-stressed with steel.

But everything has been so well put together that the eye can no longer separate the design from the material, or its grace from its strength. The whole work is homogeneous.

A like fundamental, never to be overlooked by supervising architects and engineers, is that concrete itself becomes a homogeneous material *only when it has been properly and completely mixed.*

This is why the ready-mixed concrete industry sets exacting standards for mixer design, and certifies to you that truck mixers and agitators, built to those standards, have the proper design, capacity, drum speed and mixing action and the accuracy of water control required to produce a homogeneous concrete of uniform strength.



The Badge of Dependability: You have a right to insist on this Rating Plate on any truck mixer that serves your jobs. It is available to all who comply with the quality standards jointly established, for your protection, by the National Ready Mixed Concrete Association and the Truck Mixer Manufacturers Bureau.

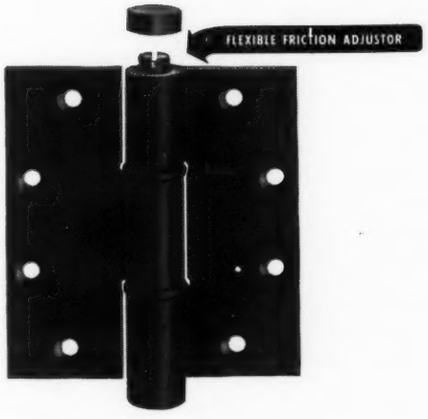
These member manufacturers comply with Bureau standards:

BLAW-KNOX DIVISION, Pittsburgh, Pa.
CHAIN BELT COMPANY, Milwaukee, Wis.
CONCRETE TRANSPORT MIXER CO., St. Louis, Mo.
THE JAEGER MACHINE COMPANY, Columbus, Ohio
THE T. L. SMITH COMPANY, Milwaukee, Wis.
WORTHINGTON PUMP & MACHINERY CORP., Dunellen, N.J.



TOM HENDERSON
FAMOUS COLLIER'S CARTOONIST

"EVERYTHING HINGES ON HAGER!"*



HAGER No. 1147
EXTRA HEAVY FRICTION-TYPE BUTT HINGE
Available also with "Hospital-Type" rounded top ends to prevent attaching ropes, wires, etc.

ELIMINATE NOISY, SLAMMING DOORS!

Exclusive flexible friction adjustor in the barrel of Hager Friction-Type Butts controls the friction exerted to just the desired degree. Proper adjustment of friction pressure prevents doors from slamming shut . . . holds them open to any desired ventilating position.

Removal of screw-type-plug at top end of butt provides quick access to the slotted pin. A few screw driver turns in one direction exert additional friction that retards the ease of door movement; several screw driver turns in the other direction eliminate friction . . . allow door to silently float back and forth.

Specify Hager Friction-Type Butts in hospitals or other buildings where *quietness* is either desirable or a necessity.

C. Hager & Sons Hinge Mfg. Co. • St. Louis, Mo.
Founded 1849—Every Hager Hinge Swings on 100 Years of Experience

HAGER HINGES *®

PRODUCTS
(*Continued from page 328*)



Miniature fluorescent lamp utilizes two 4 w tubes, provides intense, cool illumination for close work

High Intensity Utility Lamp

The *Lite-Mite*, a miniature fluorescent lamp utilizing two 4 w fluorescent tubes, produces intense but cool illumination of up to 450 fc, and is described as especially valuable for all kinds of work in which both low operating temperature and high intensity light for close work are desirable. The unit consists of a 2 by 6 in. metal shade, a jacknife support bracket composed of three adjustable 3 in. links, and a cast base. The bracket may be removed from the base for permanent installation to a desk, table, bench or machine. Swivel joints in head, base and at link joinings allow flexible adjustment of the lamp. The unit has a baked black wrinkle finish and the reflector is surfaced with baked white enamel. Tubes are rated at 7500 hrs average life, which is said to be equivalent to about 3 years of service for lamp replacement. All sockets, cords, plugs and switches are approved by Underwriters Laboratories. Stocker and Yale, Inc., Marblehead, Mass.

Stone-Lined Hot Water Tank

Elimination of leaks due to rust and corrosion is said to have been effected by a new stone-lined *Mor-Flo* hot water storage tank. Designed for residential use in present capacities, the boiler employs a seamless heavy-gauge steel tank with 33 gal. water capacity. It is designed for use with standard side-arm heaters and is reported to deliver from 28 to 60 gal. of hot water per hr depending upon size of heater employed. The ½ in. thick composition stone lining is said to afford good insulating qualities, to conserve water and fuel, and since it does not have an affinity for minerals, protection is reportedly offered against excessive scale and lime deposits. Especially suitable, according to the manufacturer, for localities where extremes of alkalinity and acidity are prevalent, the tank carries a 20 year warranty against rust and corrosion. Mor-Flo Heater Corp., 2175 E. 76th St., Cleveland 3, Ohio.

Germicidal Floor Maintenance Product

Reported to control all types of communicable disease bacteria and to prevent their growth, *Antiseptic Huntolene* is a dust settling liquid which is sprayed directly into mop heads. Treatment with the product is said by the manufacturer to prevent mops from becoming incubators for germs and from spreading filth across floors. Since the distillate is also emulsifiable, it can be washed from mops quickly and easily with soapy water. Huntington Laboratories, Inc., Huntington, Ind.

(*Continued on page 332*)

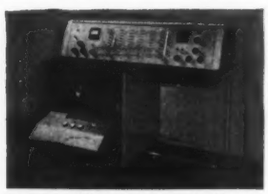


Dual Channel School Console, serves up to 40 speaker areas.

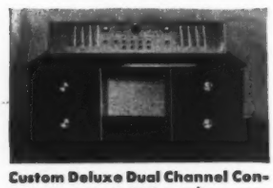
Questions about SOUND SYSTEMS?

Let the RCA Distributor help you

(no obligation, of course)



SDC Dual Channel Console. Serves from 10 to 60 speaker areas. May be equipped with AM-FM radio, 3-speed record player.



Custom Deluxe Dual Channel Console serves up to 120 speaker areas.

NOW YOU CAN BE SURE that the sound system you lay out *will always reflect credit on your good professional reputation.* Because you can get *expert* advice . . . *reliable* advice . . . direct from your RCA Sound Distributor. He's trained to know the answers . . . experienced in sound systems for schools, hospitals, hotels, industrial plants, stores, airports, depots, auditoriums, stadiums, recreational centers, churches.

Naturally there is *no obligation* for this service. It's yours for the asking, virtually anywhere in the U.S.A. It's just one more helpful service made available by RCA . . . world leader in sound systems.

So whenever you need reliable advice on any sound-system problem, don't hesitate to call your nearest RCA Sound Distributor. Or, if you prefer, just clip and mail the handy coupon below.

Sound Products, Dept. 13B
Radio Corporation of America, Camden, N. J.

Without obligation on my part please have an RCA Distributor Sound Specialist call on me.

Name_____

Firm_____

Address_____

SOUND PRODUCTS
RADIO CORPORATION of AMERICA
ENGINEERING PRODUCTS DEPARTMENT, CAMDEN, N.J.

In Canada: RCA VICTOR Company Limited, Montreal

He used his **head** instead of his back!



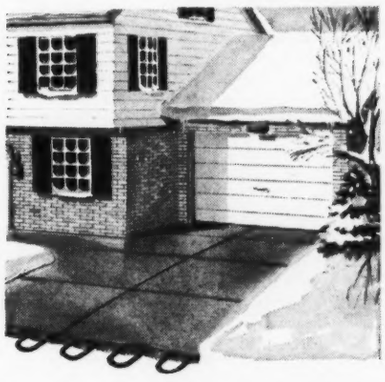
Steel pipe snow melting systems enhance property values, too!

The most envied man in any block, a few years ago, might have been the one with a new post-war car in his garage . . . or a television antennae on his chimney. But during the last "big snow", thousands of weary shovel wielders would have voted the foresighted owner of a snow melting system just about the luckiest "man of the year."

The complete passing of the snow shovel may still be years away but, more and more, home owners are installing hot water snow melting systems to keep sidewalks, driveways, steps and service areas free of snow and ice all winter long. For these systems steel pipe is naturally first choice!

The durability, adaptability and relative economy of steel pipe helps to put this "automatic snow remover" within the reach of thousands of home owners—less than the cost of an aching back and stiff muscles, or the continued inconvenience of a snow-bound car.

Yes, snow melting is definitely "coming into its own", and remember, the property *with* it always will be a preferred value.



With a driveway snow melting system the family car is always instantly available for pleasure, business, or emergency use. Steel pipe snow melting keeps Americans mobile!

Steel Pipe is First Choice

Write for a copy. A free 48-page color booklet "Radiant Panel Heating with Steel Pipe"

COMMITTEE ON STEEL PIPE RESEARCH

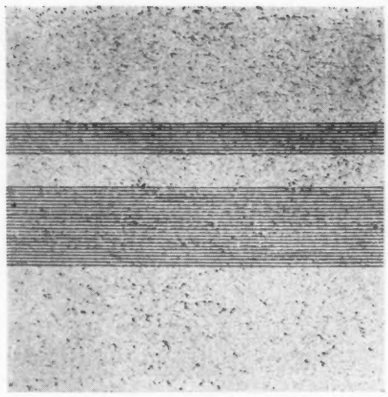
AMERICAN IRON AND STEEL INSTITUTE

350 Fifth Avenue, New York 1, N.Y.

PRODUCTS
(*Continued from page 330*)

Patterned Acoustical Panels

Travertone acoustical tile panels embossed with two finely scored parallel bands of different widths now make possible borders and decorative patterns for ceiling design wherever it is desirable to employ this material for ceiling surfaces. A wide variety of such patterns



Patterned acoustical panels provide variety of decorative effects

is possible with various combinations of alternating embossed and standard panels of the tile. The embossed tile, like the ordinary panel, is made from mineral wool fiber and is rated as an incombustible material by the U. S. Bureau of Standards. It has a noise absorption coefficient of .65 and is manufactured in panels 12 by 12 by 11/16 in. with square edges, painted white for maximum light reflection. Armstrong Cork Co., Liberty & Mary, Lancaster, Pa.

Loose-Leaf Punch-Reinforcer

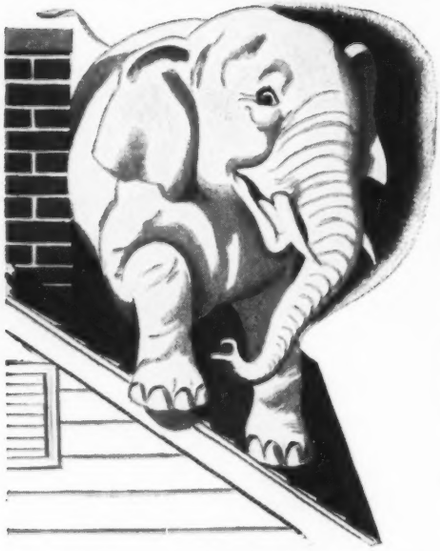
The *Target* punch-reinforcer is a new office machine which punches and reinforces loose-leaf sheets in a single operation, eliminating the necessity for hand reinforcing. Operation of the machine is reportedly simple. Paper is inserted and, at the press of a lever, holes are punched and reinforced from rolls of adhesive-backed tape. Where no reinforcement is required, the machine can



Device punches, reinforces at same time

be transformed into a simple punch at the flick of a lever. A model which punches two holes is currently available, and a three-hole version is being developed for distribution in the near future. Tape for the device is said to be very economical, the cost of reinforcing eight sheets being only about one cent. The tape can be inserted quickly and easily into the machine, according to the manufacturer. Stationers Supply Corp., 82 Wall St., New York 5, N. Y.

Why Build In WHITE ELEPHANTS?



Lightweight ZONOLITE® Plaster Aggregate Saves Dead Weight Handling

On an average house you easily save up to 10,000 pounds dead weight (the weight of several elephants) with the use of lightweight Zonolite Plaster Aggregate—used in plaster in place of sand.

Zonolite Aggregate, weighing only 1/12 as much as sand, saves time in plaster preparation and clean-up. In one recent multiple-story job, Zonolite plaster was instrumental in saving 86 days in construction time.

Zonolite plaster provides safer homes too, for it has attained fire ratings up to four times as great as sand plaster.

For Finest Homes, or Low Cost Housing, Peoria Plastering Team Uses ZONOLITE Plaster





Left to right: Ellis Hartseil, LeRoy Wallace, Everett Hartseil (contractor), Norman Hartseil, on a low-cost job with ZONOLITE. At right another Hartseil job—$100,000 "finest" Peoria home with ZONOLITE plaster throughout. LET ZONOLITE VERMICULITE AGGREGATES save time and money on *your* next job. Write for details today.

ZONOLITE BRAND VERMICULITE AGGREGATES

Member of Vermiculite Institute

Zonolite Co., Dept. AR-22
135 S. LaSalle St.
Chicago 3, Illinois

Please send complete specification material on Zonolite vermiculite Plaster Aggregate, including summary of fire tests.

Name.....

Address.....

City.....Zone.....State.....



FARMS THAT "GROW" CONCRETE TO BUILD A STRONGER AMERICA

Two of the strangest farms in America "grow" concrete in northern Illinois and central Georgia. They are the Portland Cement Association experimental farms, where scientists study the effects of weathering on concrete in northern and southern climates.

"Growing" here are better pavements for defense highways, stronger runways to resist the impact of huge commercial and military planes and the terrific heat of jets, walls with greater resistance to the elements for factories, schools, hospitals, homes, hangars, warehouses, stores and public buildings.

"Plantings" made on farms, starting in 1940, consist of rows of concrete slabs, posts and boxes which simulate pavements, structural columns and walls. Specimens contain different proportions and combinations of materials used in making concrete.

Research like this is a continuing and expanding activity of the Portland Cement Association. Out of this research comes technical information on the best concrete mixtures and the best construction practices for building structures exposed to all conditions of service and weather.

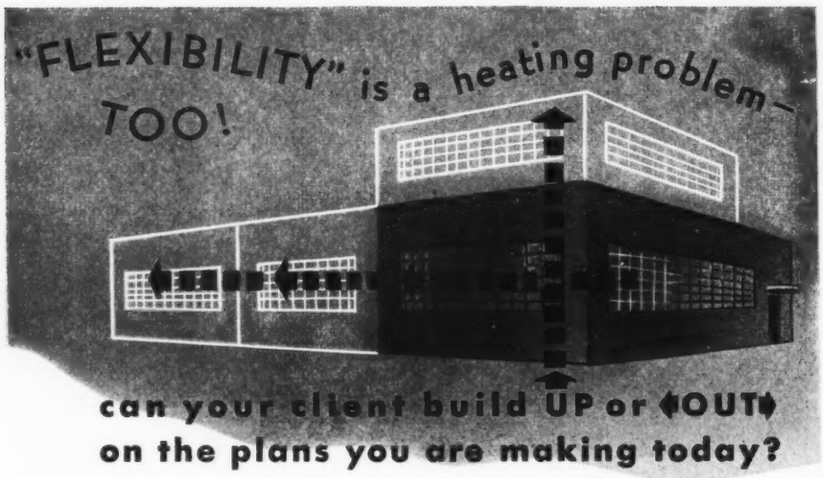
Such information is made public immediately and freely through the Association's field engineering service and its educational and promotional program which is made possible by the voluntary financial support of its 68 member companies.

Thus the knowledge gained in the laboratory and in field tests can be used quickly by architects, engineers and contractors in designing and building more durable and ***lower-annual-cost*** facilities needed for our general economy and the defense program.

PORTLAND CEMENT ASSOCIATION

33 WEST GRAND AVENUE, CHICAGO 10, ILLINOIS

A national organization to improve and extend the uses of portland cement and concrete through scientific research and engineering field work



Reznor heating is flexible

It works easily into plans

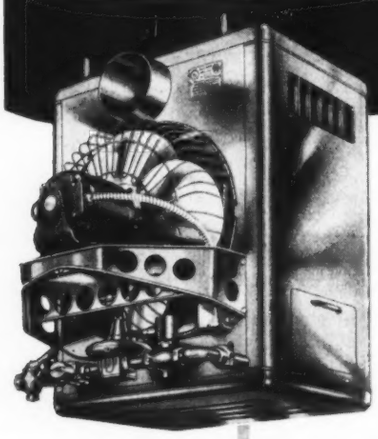
And offers clients flexibility of use with economies of operation

Of course that is a normal consideration in your study of client building requirements. But, future building costs are deferred to that later day. Can you plan heating with the same cost-deferring efficiency?

Reznor unit heating is completely flexible. Units are installed to do the heating job required now and free of anticipated heating investment. When you build *up* or *out* you simply add units. There is no problem of changing original heating plant capacity . . . no need to guess at future requirements. When you plan additions to client's building you aren't concerned with old heating plants if your system is Reznor. Why not apply Reznor efficiency to any additions you are called upon to develop?

Reznor flexibility affords interior advantages for your client, too. Should he decide on rearrangement he can easily relocate units to put heating impact where it is most needed.

Reznor allows your client temperature adjustments in degree of need for areas in use. Sections or bays not in use can have heating eliminated entirely if desired. Reznor unit heating's spot-of-use production and distribution of heat provides economical control of heating facilities. There is no central system to unbalance.



REZNOR
WORLD'S LARGEST-SELLING
GAS UNIT HEATER

MECHANIZED HEATING

A completely automatic, packaged unit in sizes from 25,000 to 200,000 BTU. Installed singly or in multiples as required. High efficiency due to balanced engineering of heat production, air movement and controls. Both floor and suspended models available.

SEE SWEET'S CATALOG FILE

Write for Details and Specifications

REZNOR MANUFACTURING CO.
44 UNION ST. · MERCER, PENNA.
Send me 20-page catalog in full color

Name_____
Firm_____
Address_____
City_____ Zone____ State____

LITERATURE

(*Continued from page 200*)

Vertical Lift Garage Doors

Barcol Overdoors and Electric Operating Equipment. Catalog lists features and advantages, presenting illustrations of actual use in residential, commercial and industrial buildings. Diagrams and photographs show details of sections giving a description of springs, latching, rollers, etc. Complete building requirements are given with space requirements and clearances for the different models. Construction and installation details are included and a section of the brochure is devoted to the electric operating equipment. 16 pp., illus. Barber-Colman Co., General Offices, Rockford, Ill.*

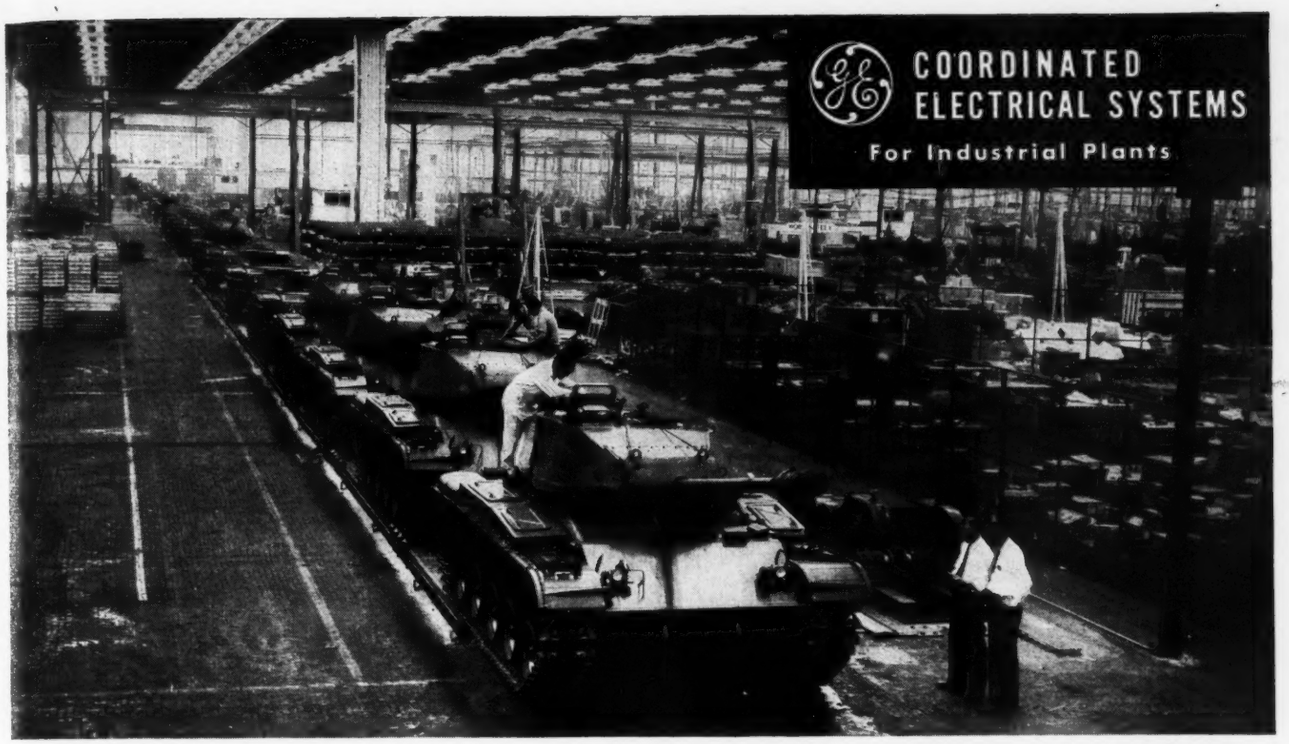
Ceramic Tile

Floors of Ceramic Mosaic Tile and *This is Mosaic Tile.* Both booklets describe in detail the many designs and uses of mosaic tile in the home, office, industrial plant, hospital, school, etc. Full color illustrations provide the reader with interior and exterior examples of how the tile may be used. Showing a complete line of colors and the available sizes and shapes, the booklets also describe the Granitex, Velvetex and Faience tile lines, and show many of the patterns of decorative wall tiles and wall tile accessories. Both booklets are 15 pp., illus. The Mosaic Tile Company, General Offices, Zanesville, Ohio.

Asbestos-Cement Building Products

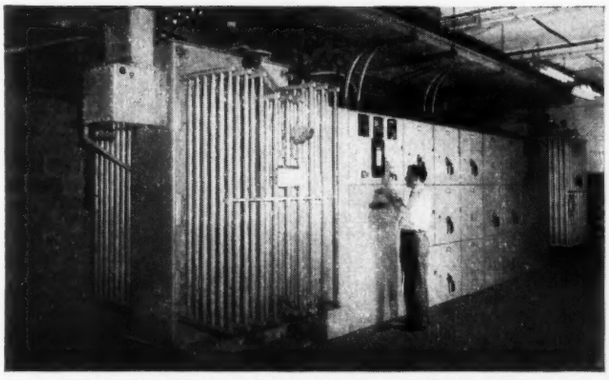
Asbestone. Recently published booklet tells the story of corrugated asbestos-cement products in use, both in the decorative and the heavy industrial fields. Brochure includes a brief description of the manufacturing and laboratory facilities with illustrations of each, and an explanation of the engineering and estimating services is given. Among products illustrated is the Strip Shingle which was reported in *Products for Better Building*, p. 234, December 1951 issue, ARCHITECTURAL RECORD. 22 pp., illus. Asbestone Corporation, 5300 Tchoupitoulas St., P. O. Box 5257-B, New Orleans 15, La.*

(*Continued on page 336*)

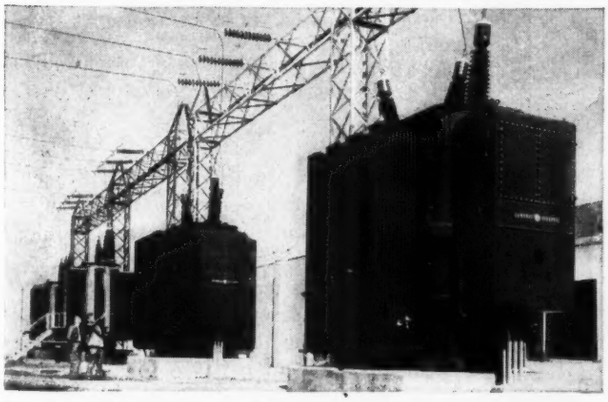


FIFTY-THREE ACRES OF SPACE IN THIS GIANT PLANT ARE RELIABLY SERVED BY "PACKAGED" G-E POWER DISTRIBUTION EQUIPMENT.

Tanks Roll In 7 Months at New Plant



Secondary distribution is made on 480-volt grounded-wye system—for greater safety, better system operation. This is one of 18 new 1500-kva G-E load-center unit substations added during plant conversion.



Two new 132-13.8-kv transformers, foreground, and breakers, disconnects, structural parts, form pre-engineered "package" integrated with existing G-E equipment to form plant's master substation.

G-E power distribution equipment—easily specified, quickly installed—helps speed plant conversion to defense production

This new plant is an outstanding example of rapid conversion to defense production. Despite many obstacles, the first tank rolled off the line only seven months after the World War II plant was taken over. A major project in the conversion effort was the complete revamping and expansion of the electrical distribution system to meet the heavy demands of tank manufacture.

Selection of General Electric equipment helped speed conversion in these ways: (1) co-ordinated systems are readily designed around easy-to-specify G-E equipment, (2) "packaged" G-E equipment is quickly installed and connected, and (3) when substantially all power equipment is G-E, we will co-ordinate manufacture and shipment of system components.

You can gain these time-saving benefits for *your* industrial plant projects by specifying dependable, user-preferred G-E distribution equipment. And remember, G-E application engineers are ready to advise and assist those charged with distribution-system planning and design. Contact your G-E apparatus representative. And write for new brochure GEA-5600, "Electric Power for Industry's Third and Largest Expansion." ***Sect. 665-115, General Electric Company, Schenectady 5, N. Y.***

GENERAL ELECTRIC

665-115



Architect Streamlines Own Office Building with . . . SOSS INVISIBLE HINGES

THE SOSS INVISIBLE HINGE is *the* hinge that has no ugly, protruding hinge butt. It lets architects fulfill the demands of modern design for flush, smooth, streamlined interiors. You will find SOSS hinges ideal for all types of doors, wall panels and cupboards . . . in every type building! The more you use this beautifying hinge the more compliments you, too, will receive on your good taste in modern design.

Write for free blueprint catalogue to—

SOSS MANUFACTURING CO.

21769 Hoover Road, Detroit 13, Mich.

SEE OUR CATALOG IN SWEET'S

A. I. A. File No. 27-B-1

LITERATURE

(*Continued from page 334*)

Open Steel Grating Applications

Versatile Open Steel Flooring. Illustrated with a large number of photographs, this booklet deals with varieties and features of welded, riveted and pressure-locked steel grating. A wide range of applications for varied particular requirements for industrial floors, stairs, platforms, walkways, outdoor and miscellaneous uses are illustrated with photographs of actual installations. A specifications list and a table of safe loads are included. 16 pp., illus. Open Steel Flooring Institute, Inc., 2311 First National Bank Building, Pittsburgh 22, Pa.

Blower Type Unit Heaters

Trane Torridor Blower Type Unit Heaters (*Bulletin DS-327-A*). Revised and condensed catalog provides information concerning selection and application of the manufacturer's blower type unit heaters. Complete capacity information and performance data on heaters with capacities from 100,000 to 150,000 Btu is given, and general features, component parts and allied products are discussed and illustrated. Ten different outlet arrangements, optional dampers, mixing boxes and wall intake boxes are shown graphically for models which deliver heat from floor, wall or ceiling, either directly or through ducts. Nozzle arrangements, control diagrams, piping details, tables of steam and hot water capacities, and mechanical and engineering specifications are included. 54 pp., illus. Trane Co., La Crosse, Wis.*

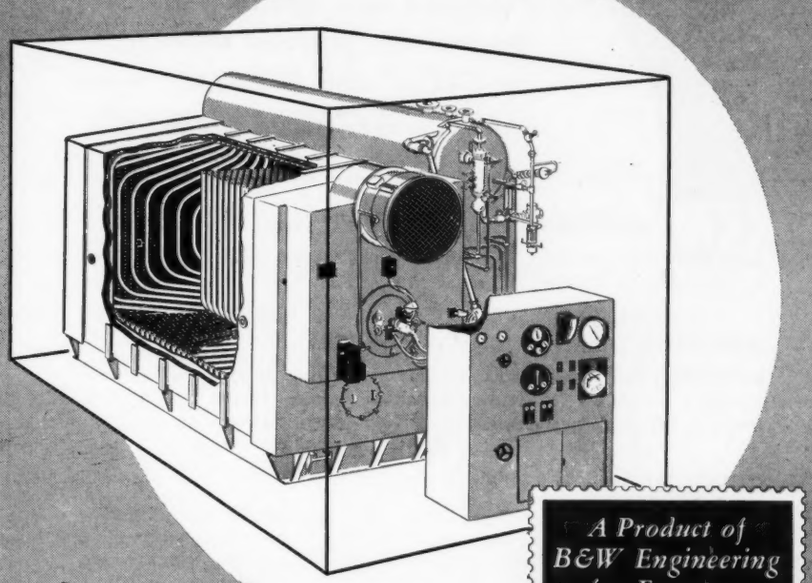
Acoustical Plaster

Coralux Acoustical Plaster. Brochure contains photographs showing microscopic details of acoustical surface, along with notes pointing out the many uses to which this material may be applied. A complete description of this aggregate is included in the brochure, and instructions for applying the material with specifications and performance data are given. 4 pp., illus. F. E. Schundler & Co., Inc., 504 Railroad St., Joliet, Ill.*

(*Continued on page 338*)

NOW Big boiler advantages "wrapped up" in NEW COST-SAVING B&W SHOP ASSEMBLED UNITS

B&W Integral-Furnace Boiler, TYPE FM



A Product of B&W Engineering for Economy

Cost-Saving Features of the New B&W Integral-Furnace Boiler, TYPE FM

- Saves Erection Time and Cost
- Meets Wide Range of Services
- Handles Quick Load Changes
- Fast Steaming
- Low Maintenance
- Easy Accessibility
- Suitable for Outdoor Service
- Burns Oil and/or Gas
- Saves Fuel
- Saves Space
- Safe, Automatic Operation

Here is the ideal combination for efficient, low-cost "packaged" steam: the new B&W Integral-Furnace Boiler, Type FM. It combines the many advantages of factory-assembled boilers with the service-proved economies of B&W Integral-Furnace construction. It's delivered fully-equipped for immediate operation.

Of prime importance is the fact that this new B&W boiler embodies design, construction, and operating features that have made larger capacity Integral-Furnace units such a heavy favorite among industrial plants and central stations.

Small and medium size plants, institutions, and commercial establishments will find this new unit the ultimate in low-cost heating and process steam-generation from 2,800 to 25,000 lb. per hr. at pressures to 250 psi. Large plants, too, where space and load characteristics warrant, may profitably consider several packaged boilers instead of a single "tailor-made" installation.

Engineered, designed and built under a single responsibility, the new Integral-Furnace Boiler, Type FM is backed by the same tradition of service satisfaction that has made B&W a by-word in low-cost steam generation for more than 80 years.

Helping Industry Cut Steam Costs Since 1867

BABCOCK & WILCOX

Send for Bulletin G-72, detailing the many advantages of this new B&W creation in low-cost steam generation.

The Babcock & Wilcox Company, 85 Liberty Street, New York 6, N. Y.

G-506

The Architect's Question Box



Published now and then in the interests of wood finishing, by FIRZITE and SATINLAC*, those two little* **WIZARDS WITH WOOD.**

*TRADEMARKS.

QUESTION: What are the most popular finishes of today?

ANSWER: "Light Natural", "Blond" and "Pickled"—all obtained with SATINLAC, or SATINLAC and White FIRZITE.

QUESTION: What is the "Light Natural Effect"?

ANSWER: The wood is kept as near to the natural color and tone as possible without a "built-up" effect or a glossy finish. Water-clear SATINLAC is the perfect answer for achieving this finish.

QUESTION: What is the "Blond Effect"?

ANSWER: It is a natural finish with a whitish or tinted white undertone that catches in the grain and plays it up subtly and smartly. Used on close grained woods such as Birch, Maple, etc., White FIRZITE has been scientifically developed to get this effect.

QUESTION: What is the "Pickled Effect"?

ANSWER: Obtained on open pored woods such as Oak, Elm, etc., by coloring the deep pores of the wood. It differs from the blond effect in that the pores stand out in contrast to the wood; whereas, in the blond effect an overall cast results. Both the "Blond" and "Pickled" effects are best obtained with White FIRZITE and SATINLAC.

QUESTION: Paint stores do not always carry stains in all shades. How can I make my own stain?

ANSWER: By adding colors-in-oil to Clear or White FIRZITE any color stain can be produced. Colors-in-oil added to Clear FIRZITE produce dark stains such as Oak, Walnut, Mahogany, etc. Added to White FIRZITE light pastels and grays are made.

If you have any problems in wood finishing, let us help you. Write also for specification sheet.

May we send you a blond Birch panel showing SATINLAC finish?

UNITED STATES PLYWOOD CORPORATION

Dept. 377, 55 West 44th Street, New York, N. Y.



LITERATURE

(*Continued from page 336*)

Store Front Moldings

National Butt-Way Moldings Store Fronts. Brochure illustrates the manufacturer's line of alumilited aluminum store front moldings (as reported in *Products for Better Building*, December, 1951 issue, p. 250, ARCHITECTURAL RECORD). Profile sections are shown of fully extruded sash, sash with extruded face and rolled back, sills, side and head jambs, corner and division bars, fascias, awning hoods, door frames, thresholds, transoms and structural glass moldings. Construction details are also included along with photographs of a number of the moldings, which were recently used throughout "Shoppers' World" in Framingham, Mass. 16 pp., illus., National Store Fronts Co., Inc., 57 Cliff St., Boston 19, Mass.*

Basement Planning

How to Make Basements Dry, Beautiful and Livable. Booklet contains useful information on laying out the basement to provide adequate space for recreation by grouping service equipment together. Included in the book is a discussion on heating, lighting, ventilating and partitioning, and helpful decorating hints are given with the use of colored illustrations. The causes of dampness are brought out and methods of correcting mildly damp, moderately damp and severely damp basements are studied. There are several plans given, suggesting typical arrangements. This booklet is available at no cost to architects, if requested on business letterhead. 30 pp., illus. Medusa Portland Cement Co., 1000 Midland Bldg., Cleveland 15, Ohio.

LITERATURE REQUESTED

The following individuals and firms request manufacturer's literature:

Associated Engineers, Inc., 222 E. Berry St., Fort Wayne 2, Ind.

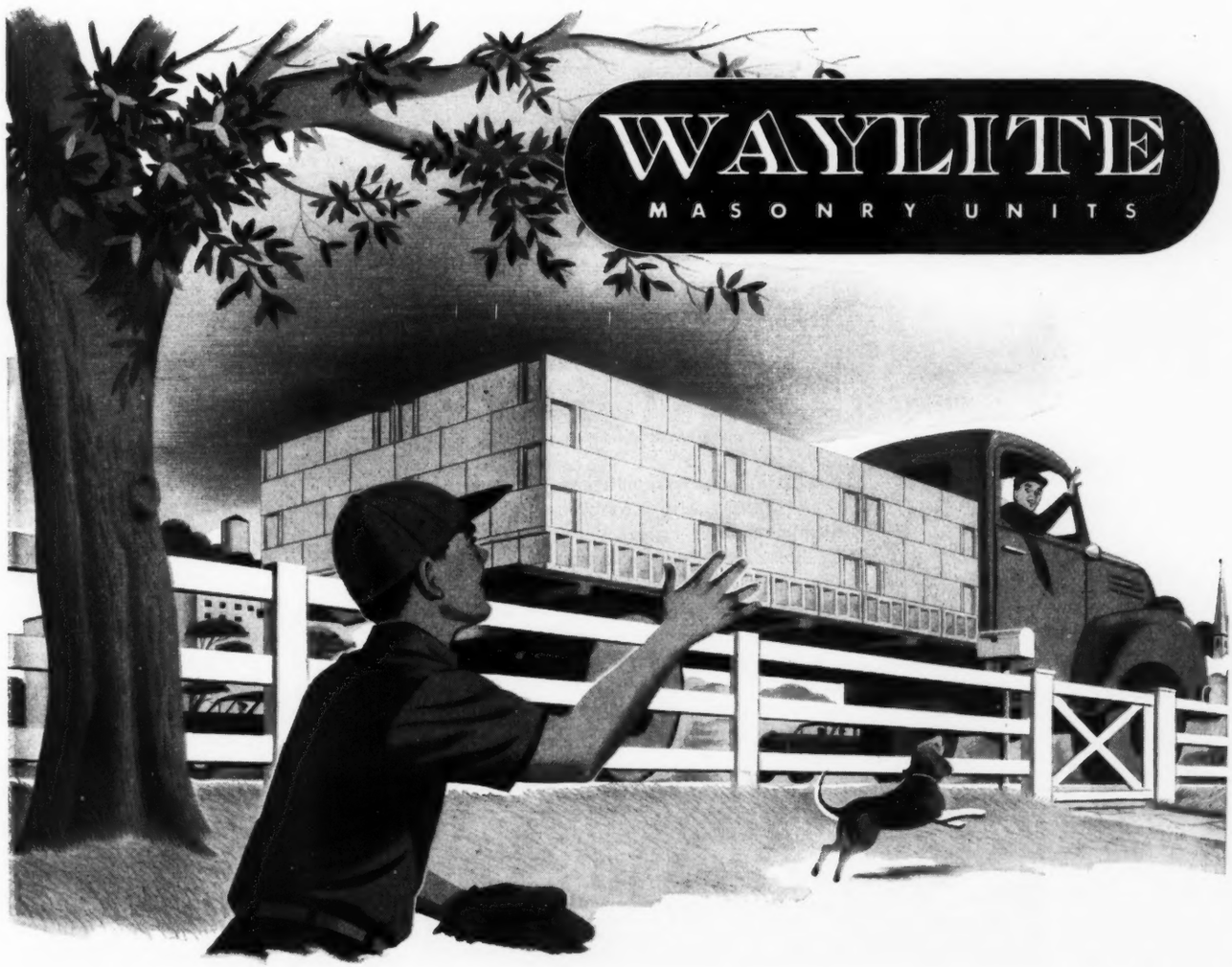
Harry A. Burke, Building Designer, 3907 Harding Rd., Nashville, Tenn.

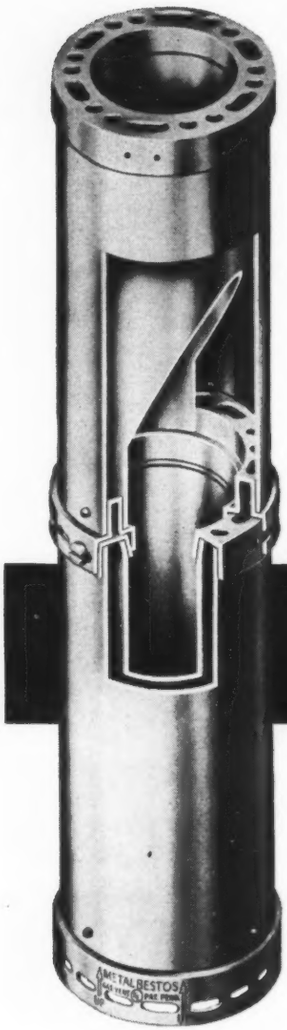
R. A. Perez-Marchand & Assoc., Archts. & Engrs., Office Building No. 1023, Box 594, Rio Piedras, Puerto Rico.

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THE RECORD REPORTS

WASHINGTON

(*Continued from page 38*)

N.A.H.B. Proposes Survey of House Building Practices

An indefinite but long series of meetings is being planned by private home builders with representatives of the Federal Housing Administration and Veterans Administration in the builders' effort to revise minimum requirements.

The door to these future conferences was opened in December when Carl Lans, then technical services director for the National Association of Home Builders, held two days of sessions with the agency personnel. Objective of the meetings, according to the home builders, is revision of present minimum standards to up-date them on the basis of new research discoveries and to bring about the construction of "engineered" housing units.

Basic Need: Field Research

To achieve this goal there will have to be more than a modicum of research into house building practices, most of it at the local levels.

As described by Mr. Lans before he left the N.A.H.B. to become production manager for Earl W. Smith, Berkeley, California builder, one prime purpose of the new program lies in the attempt to get home construction down to a greater science. In short, N.A.H.B. seeks the efficient minimum and exclusion of the unnecessary maximum; that is, the "extra" that has been proven unnecessary through proper testing and research methods.

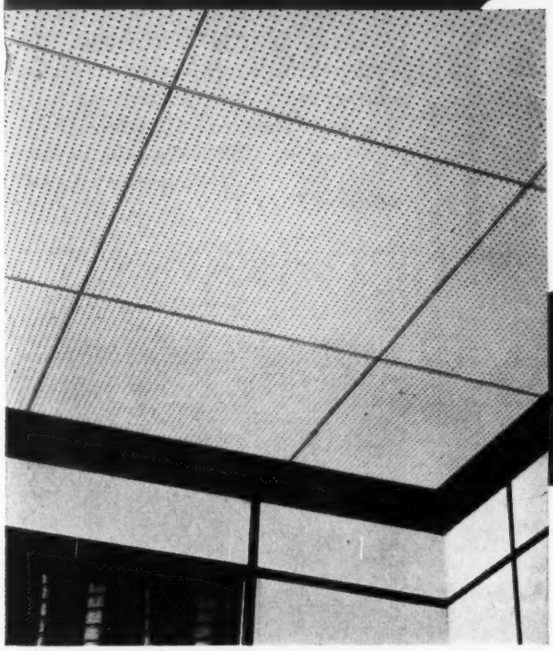
There is a strong conviction that if this can be achieved, more housing space can be offered the buyer than is being marketed at current prices. Or, put another way, better homes can be offered at the same prices.

N.A.H.B. has proposed to the agencies that a concentrated study of FHA-insured and VA-guaranteed housing be conducted. This would cover homes erected over the past few years and would seek to determine the cause of any building flaws that had shown up since the unit was put in place. The study would look for unequal shrinkage, plaster cracks, leaks, termite infestation, poor distribution of heat, excessive heat loss, damaging condensation and similar

(*Continued on page 342*)

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The 12″ square panels consist of a perforated asbestos-cement Transite facing, 3/16″ thick, backed up with a sound-absorbing element available in several thicknesses and types depending on acoustical requirements.

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Other J-M Acoustical Ceilings include Fibretone*, a drilled fibreboard; Sanacoustic*, perforated metal panels backed up with a noncombustible, sound-absorbing element, and Permacoustic*, a textured, noncombustible tile with great architectural appeal. Write today for our free brochure, "Sound Control." Johns-Manville, Box 158, Dept. AR, New York 16, N. Y. In Canada, write 199 Bay Street, Toronto 1, Ontario. *Reg. U. S. Pat. Off.

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★ **Choice of Five Woods**

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Even the modest home can now afford the floors of a mansion. It's Haddon Hall—a fine hardwood flooring whose distinctive basketweave design is a direct copy of the classic English pattern.

Parkay Haddon Hall is factory assembled in 12" x 12" beveled edged units composed of 2"x 4" and 2" x 2" solid blocks ¼" thick. The blocks making up each unit are selected to insure contrast of grain structure—then finished by proven factory methods for lasting beauty.

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PARKAY READY-FINISHED HARDWOOD FOR FLOORS AND WALLS

THE RECORD REPORTS

WASHINGTON

(*Continued from page 340*)

"bugs" that might have become evident since the house was constructed.

Waste in Building Attacked: Johnson Group Rebukes Army

The Army has been taken to task by the Lyndon Johnson preparedness subcommittee of the Senate for waste of building materials in its construction programs.

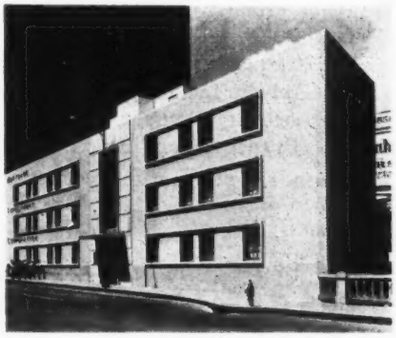
The Johnson group, in one of the later reports in a long series of critical statements aimed at various facets of defense procedure, dealt at some length with specific examples of alleged wrong-doing at Army camps. Among these was sharp criticism of the use of corrugated aluminum sheeting ($39,989 worth) to com-

(*Continued on page 344*)

Photos: Harvey Patteson & Son

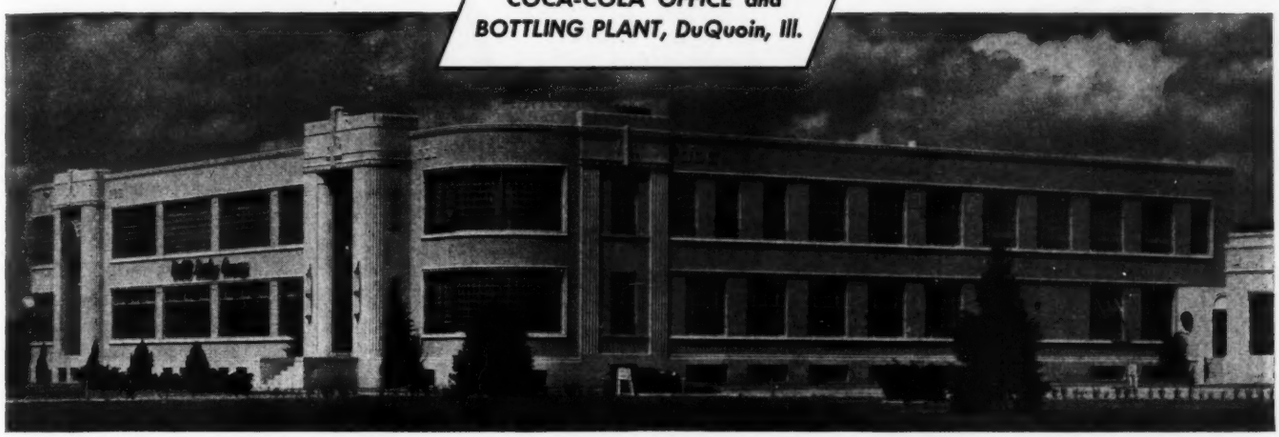


This three-story-and-basement building of face brick on tile cost $140,000, is headquarters for Mortgage Investment Corporation, San Antonio. Architects were Atlee B. and Robert M. Ayres



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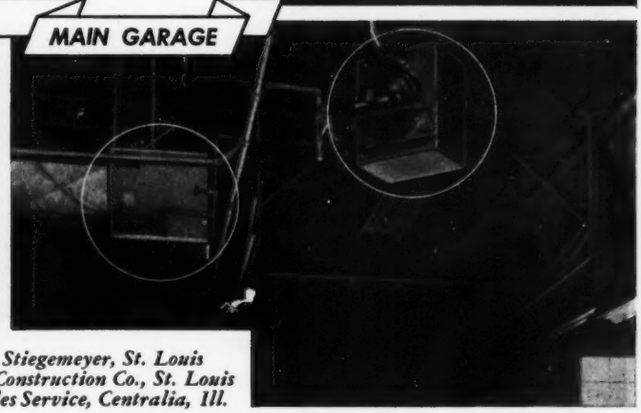
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THE RECORD REPORTS

WASHINGTON

(*Continued from page 342*)

pletely reroof and side service buildings in a tent-housing area at Fort Lewis, Wash. In addition to the roofing and siding, committee investigators found that 112,776 pounds of scarce strategic aluminum were used to complete the project.

The report on this situation commented as follows: "The fact that these buildings are to be used for only several months of each year — during National Guard and Reserve summer encampments — raises a question as to the wisdom of utilizing such premium materials for the project."

Housing Policy Hit

The report was critical of plans for expanding housing facilities when present quarters were not used to the full extent. It noted that plans were underway for construction of two new regimental areas at an estimated cost of more than $23 million to provide permanent-type barracks for 6100 troops. Yet, it was charged, at Fort Lewis presently available permanent barracks were only filled to an average of 72 per cent of capacity during the past 12 months.

As a result of its findings, the subcommittee recommended that the Army review its programs — particularly its recreational facilities — to determine if the advantages gained offset the spending of public funds for construction and maintenance. It also urged "that the unnecessary use of scarce and strategic aluminum for refurbishing buildings not be permitted."

Local Committees Proposed

Such a survey necessarily involves a lot of detail; and to get it started, the home builders have proposed establishment of local committees. Each of the organization's 180 local chapters has been advised to set up such a group. These local bodies, in cooperation with field staffs of the two government agencies, would run surveys to gather information as a basis for changing the FHA minimum standards.

As explained by Mr. Lans, the studies will strive to determine at just what cost level a property can deliver the greatest relative value to a buyer. Concentration of the studies at local levels is required if

(*Continued on page 346*)

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WANTED — First class architectural draftsman with experience on industrial construction. Long term employment in Mid-Atlantic office with possibilities of eventual affiliation as partner. In reply give full qualifications, salary desired and when available. Box 556, *Architectural Record*, 119 W. 40th St., New York 18.

WANTED — Heating and Ventilating engineer familiar with requirements for groups of structures including air conditioning and refrigeration, steam plants and distribution systems. Long term employment indicated in office located on Eastern Seaboard. In reply, give experience record, salary desired and date available. Box 557, *Architectural Record*, 119 W. 40th St., New York 18.

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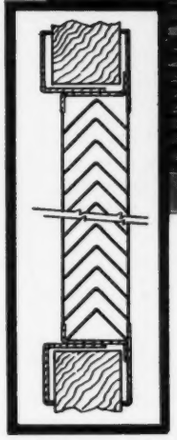
ARCHITECT — Age 32, college graduate, Ohio registration. Experienced all phases of practice; client contact, administration, production, specifications, and supervision on various types of projects including hospitals and schools. Seeks position with a future, prefer possibility of associateship or responsible opportunity in allied field. Box 558, *Architectural Record*, 119 W. 40th St., New York 18.

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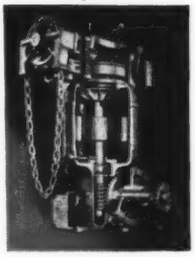
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SAVING WAYS IN DOORWAYS **KINNEAR** ROLLING DOORS

THE RECORD REPORTS

WASHINGTON

(*Continued from page 344*)

each type of house is to be considered in its own environment.

Usually, adding "amenities" to a house will increase its worth at a rate commensurate with the increased cost; but the builders' contention is that, first, the buyer cannot always afford these added items, many of which are now required by the FHA manuals, and second, that not all the required items are necessary.

What the builders want are new regulations which would recognize latest advancements in building material research and at the same time permit them to exclude from their construction schedules certain niceties they claim are not required to make the unit structurally sound, architecturally attractive, livable and healthful.

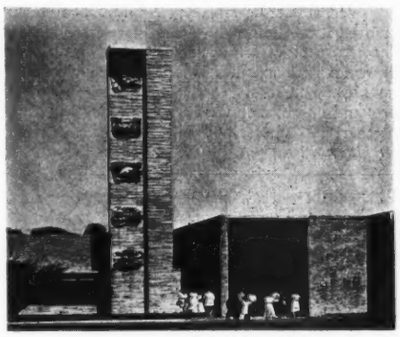
Mr. Lans has suggested that some of the things that might be dropped from the required list in this connection are rear porch lights and, where the occupant's car could just as well stand outside, driveways. The suggestion is that these features could be added to the property at a later date, perhaps by the owner himself.

Agencies Welcome Project

The agencies' response to the proposals was immediate and encouraging. No

(*Continued on page 348*)

Photo: Robert C. Hoffner



Architect for the Bird Building, Cleveland, Ohio, Zoological Park, was J. Byers Hays of Conrad, Hays, Simpson and Ruth. Sculptures on front of building (above) brought Viktor Schreckengost the first architectural ceramic sculpture citation in the 16th Ceramic National, sponsored by Syracuse, N. Y., Museum of Fine Arts and Onondaga Pottery Co.

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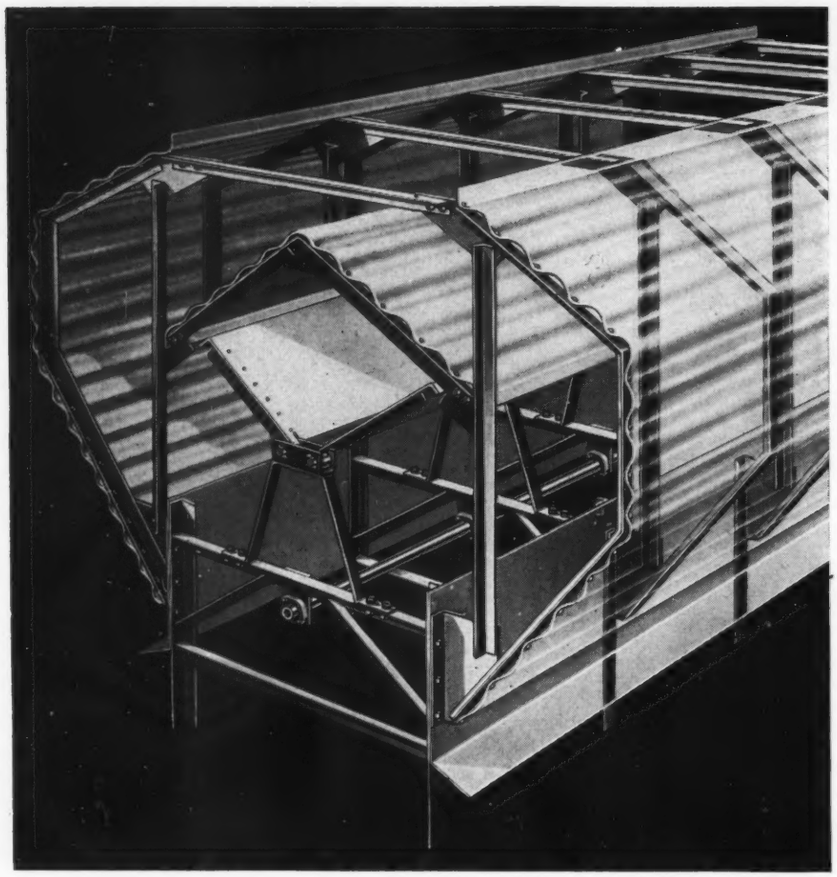
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The MONOVENT's simplicity and heavy construction assure long, trouble-free life with almost no maintenance. See Sweet's for complete data or write for Bulletin S.P.V. 6.

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WASHINGTON

(*Continued from page 346*)

definite dates for future conferences have been set, but C. O. Christenson, formerly in charge of property requirements for FHA and now with the National Association of Home Builders, told ARCHITECTURAL RECORD that many more meetings would be held, both at the regional and national levels. The regional conferences will be closer to the local problems and can guide the local committees.

FHA personnel has taken the attitude that the suggestions from the N.A.H.B. all have been constructive ones and have promised cooperation in detail. More than 50 specific matters were presented to the government officials by Mr. Lans and approximately one third of these were resolved on the spot. N.A.H.B. has "digested" the remaining items and is presenting them to FHA.

The program is resulting in some modification of the FHA minimum requirements, and more changes will follow. Marketability of homes has been an important consideration in the conferences and is being given due attention by the FHA staff.

One of the more specific complaints is that excessive materials are required in many instances where less material would do just as well. These "extras" in no way contribute to more structural soundness, the builders claim. They also point to requirements for rigid conduit while flexible types are being used in other homes throughout the country. In this respect, the builders are fighting what they refer to as "selfish interests" that argue for certain material specification.

Addenda

• The highly important meeting of the Construction Industry Advisory Council of the National Chamber of Commerce, to discuss operations of the building industry under federal controls, was scheduled for February 12 at the National Chamber building in Washington.

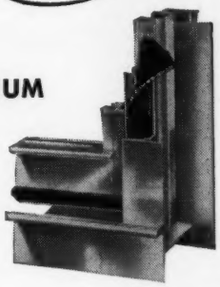
Leaders of the construction industry were to review operations to date, prospects for the year ahead, and to draft recommendations for changing government control systems.

(*Continued on page 350*)

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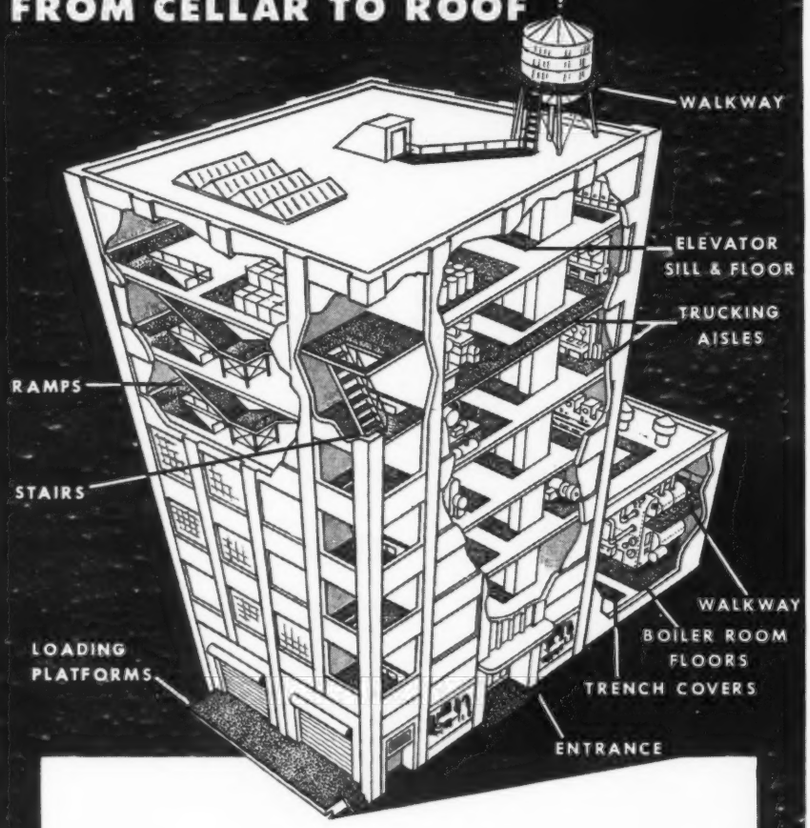
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THE RECORD REPORTS

WASHINGTON

(*Continued from page 348*)

The one-day session was set up to touch on all phases of building — markets, advance planning, public construction, labor, conservation of materials and separate consideration of structural steel, copper, aluminum, plumbing and heating products and the self-certification system of controls.

• Permanent regulations governing the renegotiation of defense contracts were expected from the Renegotiation Board sometime in February.

Temporary rules were issued in January for perusal by industry representatives. These steps followed a two-hour conference by members of the Board and its staff with officials of the Associated General Contractors of America, Inc. The Renegotiation Act of 1951 set the basic pattern for renegotiation policies to be followed by the Board, but left to the Board itself the responsibility for writing the regulations that will implement the law.

A.G.C. recommendations to the Board covered mandatory exemption, permissive exemption, advertised competitive bidding, option, and joint ventures.

(*Continued on page 352*)

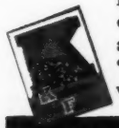


Photo of rendering shows "typical" entrance of "Fedway" department stores planned by Federated Department Stores Inc. in seven communities of the Southwest. The first two are under construction at Amarillo and Wichita Falls, Tex. Meyer Katzman of New York is the architect

* first Kalman floor laid in 1916 still in use!

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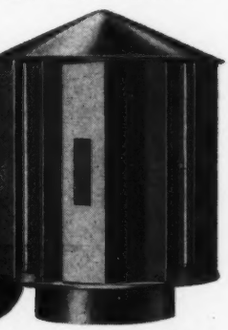
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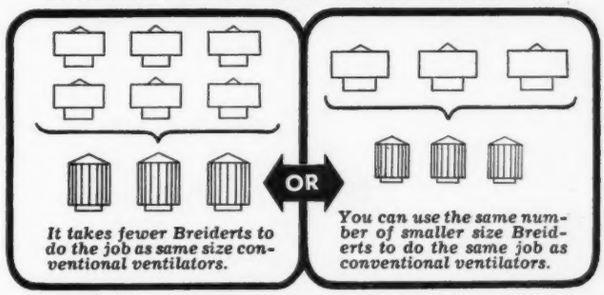


Patent No. 2269428

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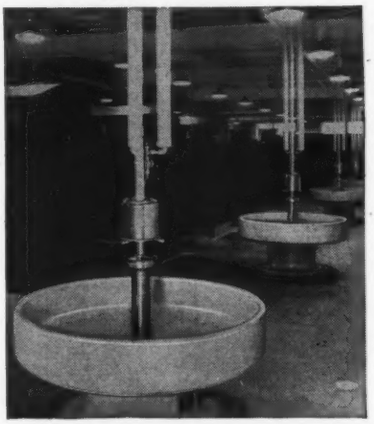
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THE RECORD REPORTS

WASHINGTON

(*Continued from page 350*)

• The Associated General Contractors of America, Inc. said it looked forward to the possibility of a $37 billion construction volume in 1952, compared with the record-breaking achievement of some $39 billion in 1951. But it stated the forecast for this year, placed within the framework of the current mobilization program, was based on the assumption that there will be a continued high level of materials production with negligible work stoppages and a general easing of the structural steel supply in the last half of the year.

• In mid-January, the Housing and Home Finance Agency published another booklet in its continuing research series; this one on "Record Keeping for the Small Home Builder."

The 86-page document was prepared by the Michigan University School of Business Administration and is the first of two such treatments of record keeping for builders. The second will deal with record-keeping systems adapted to needs of larger contractors.

The publication presently available at the Government Printing Office (for $1.25 per copy) treats the subjects of estimating, classifying and recording, the job record, record keeping for materials, payroll procedure, other reports, and supplementary considerations.

• Regional offices of the Housing and Home Finance Agency and the Federal Security Agency began receiving statements from local agencies in critical defense housing areas regarding the need for federal financial assistance to supplement community facility construction and service.

Congress last year authorized an ambitious program of community facilities but appropriated limited funds for carrying it out: $15.5 million for all forms of assistance. So, the two agencies concerned said only the most urgent defense related needs could be approved for federal aid. Each community seeking aid is asked to furnish an inventory of its existing community facilities together with plans for additional facilities that are proposed for meeting defense needs.

(*News continued on page 354*)

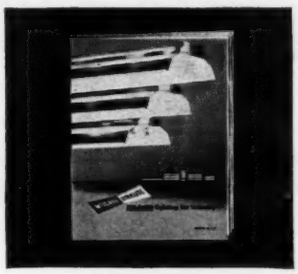
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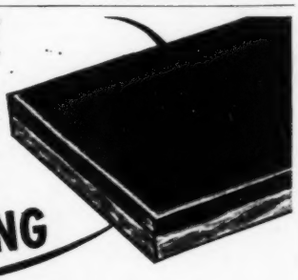
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You'll find it easy to specify for any industrial installation. Choose from 82 *Dynalite* Job-Rated units...

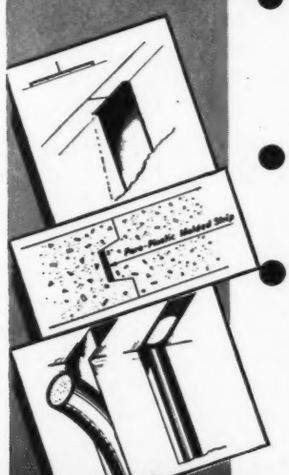
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  Para-Plastic Sealing Compound is molded into strips for sealing of keyed construction joints and cracks or breaks in vertical concrete surfaces. Concrete poured against the strip, after setting up, will bond with strip to form watertight seal.
- **NARROW STRIP Pressure Seal**
  Para-Plastic Pressure Seal is available in both Solid Para-Plastic, and Para-Plastic coated sponge rubber types which are rectangular or square in cross section. Designed for sealing existing expansion joints or contraction cracks in vertical or sloping masonry walls and surfaces.

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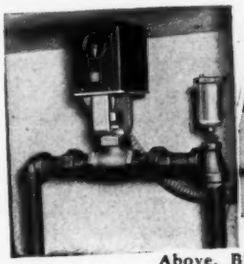
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Left, Barber-Colman Motor-Operated Valve on the steam supply to converter in the boiler room.

Above, Barber-Colman Motor-Operated Valve as installed on the hot water supply to each room.

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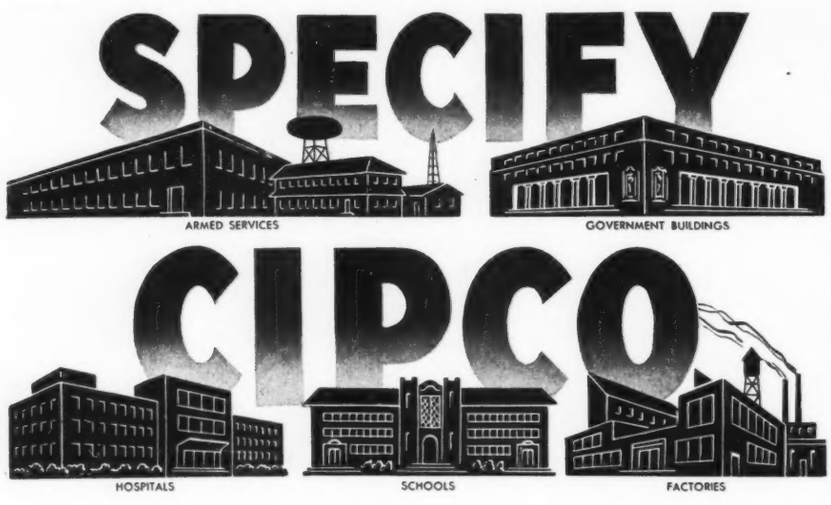
BARBER-COLMAN COMPANY
1232 ROCK STREET, ROCKFORD, ILLINOIS

THE RECORD REPORTS

(Continued from page 352)



The Betania Alkali Plant 30 miles north of Bogotá, Colombia, is South America's first major alkali production facility. It was designed and constructed by the H. K. Ferguson Company, industrial engineers and builders, cost about $15 million. It began operations last month



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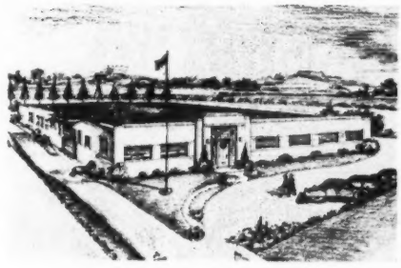
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ON THE CALENDAR

Feb. 5: Poetry Evening — Dylan Thomas; fourth of 12 evenings on "The Related Arts of Today" presented by the Junior Council — Auditorium, Museum of Modern Art, 11 W. 53rd St., New York City.

Feb. 5–8: Inservice Training Course "The Acoustical Spectrum — Sound, Wanted and Unwanted," sponsored by the University of Michigan School of Public Health in collaboration with the Institute of Industrial Health — Auditorium, School of Public Health, University of Michigan, Ann Arbor, Mich.

(Continued on page 356)

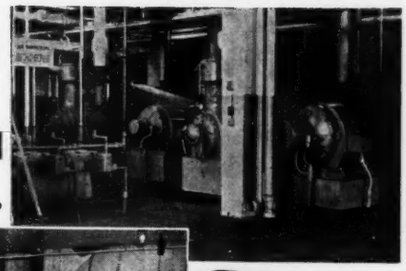


PLANT FOR ATOMIC TOOLS IS GOING UP IN CHICAGO

Radiation Counter Laboratories Inc., manufacturers of radiation-detecting instruments, have under construction in Chicago a plant which will be entirely devoted to making tools for measurement of radioactivity. It is believed to be the first privately-financed plant in America to be built for this exclusive purpose.

The building, 80 by 85 ft, will have precast reinforced concrete roof on steel supports, exterior walls of brick and glass block. Tuchschmidt and Associates are the architects.

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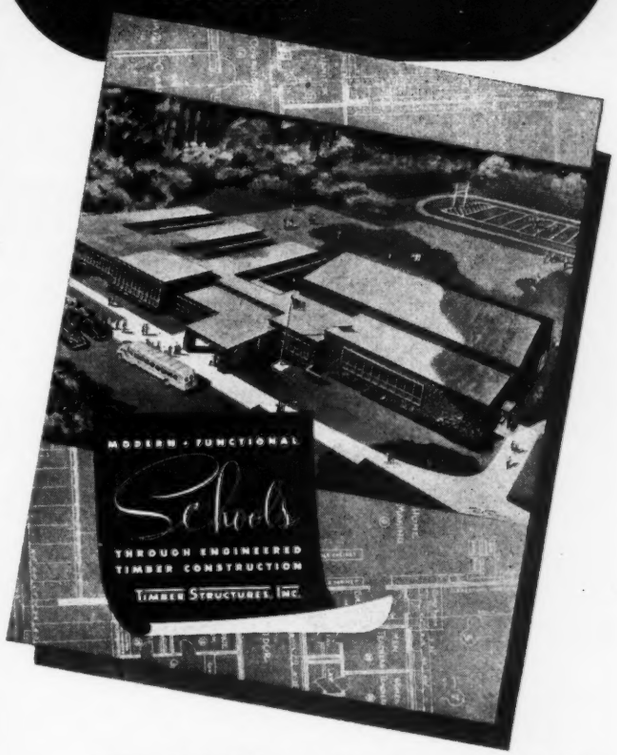
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THE RECORD REPORTS

(*Continued from page 354*)

Feb. 8–9: 1952 Midyear Conference, American Hospital Association — Hotel Drake, Chicago.

Feb. 7: Meeting of the Indiana Society of Architects; topic, "Health and Sanitation" — Construction League, Indianapolis.

Feb. 11–Mar. 7: Gold Medal Exhibit, Design and Craftsmanship in Native Industrial Arts — Architectural League, 115 E. 40th St., New York 16, N. Y.

Feb. 12: Symposium, "The New Sculpture"; fifth of 12 evenings on "The Related Arts of Today" presented by the Junior Council — Auditorium, Museum of Modern Art, 11 W. 53rd St., New York City.

Feb. 18–Mar. 16: Annual exhibition, Sculptors' Guild — American Museum of Natural History, Central Park West and 79th Street, New York City.

Feb. 21–22: Tenth Annual Conference, Society of the Plastics Industry (Canada) Ltd. — Royal York Hotel, Toronto.

Feb. 23–27: Regional Meeting, American Association of School Administrators — St. Louis.

Feb. 25–28: 33rd Annual Convention, Associated General Contractors of America — Hotel Statler, Detroit.

Feb. 26: "The Writer Looks at Painting"; sixth of 12 evenings on "The Related Arts of Today" presented by the Junior Council — Auditorium, Museum of Modern Art, 11 W. 53rd St., New York City.

Feb. 26–28: 1952 Convention, American Concrete Institute — Netherland Plaza Hotel, Cincinnati.

Feb. 27–Apr. 13: Fifth Annual Festival of Contemporary Arts — University of Illinois, Urbana-Champaign, Ill.

Mar. 3–5: Semiannual Meeting, Board of Directors, the American Institute of Architects — Washington, D. C.

Mar. 3–24: L'Art Sacre, an exhibition of French modern religious art and architecture — the Art Alliance, 251 S. 18th St., Philadelphia 3, Pa.

Mar. 5–8: 38th Annual Convention, Michigan Society of Architects — Hotel Statler, Detroit.

Mar. 8–12: Regional Meeting and Exhibit, American Association of School Administrators — Los Angeles.

Mar. 11: "De Divina Proportione" — the importance of proportion in art, especially architecture; seventh of 12 evenings on "The Related Arts of Today" presented by the Junior Council — Auditorium, Museum of Modern Art, 11 W. 53rd St., New York City.

Mar. 11–14: Fifth National Plastics Exposition, Society of the Plastics Industry — Convention Hall, Philadelphia.

Mar. 17–Apr. 4: Gold Medal Exhibit, Mural Painting — Architectural League of New York, 115 E. 40th St., New York City.

Mar. 22–Apr. 6: Second Chicago International Trade Fair — Navy Pier, Chicago.

Mar. 26: New Poets Introduced by William Carlos Williams; eighth of 12 evenings presented by the Junior Council — Auditorium, Museum of Modern Art, 11 W. 53rd St., New York City.

Mar. 26–June 1: Exhibition of playground designed for the United Nations by Isamu Noguchi and Julian Whittlesey — Museum of Modern Art, 11 W. 53rd St., New York City.

Mar. 31–May 5: Gropius Architectural Exhibition — The Art Alliance, 212 S. 18th St., Philadelphia 3, Pa.

(*Continued on page 358*)

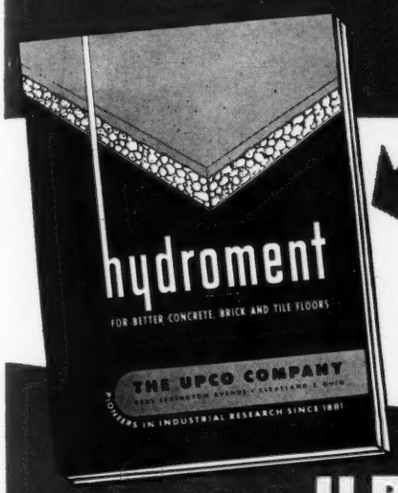


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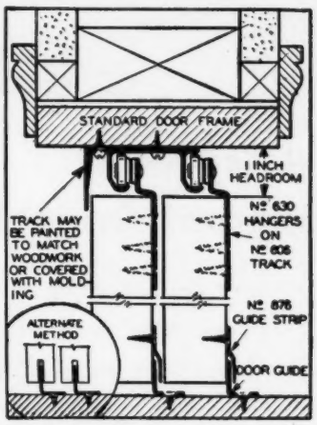


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THE RECORD REPORTS

(*Continued from page 356*)

Toledo, Peoria & Western Railroad has recently opened this new office building in East Peoria, Ill. Construction is steel frame with cavity-type curtain walls, exposed lightweight concrete block. The architect was Carter E. Hewitt

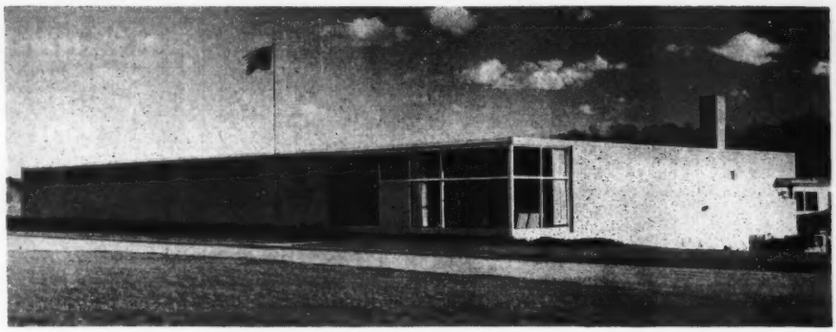


Photo: Associated Photographers



Apr. 4–May 18: Cezanne: paintings, watercolors and drawings; an international loan exhibition organized in cooperation with the Art Institute of Chicago — Metropolitan Museum of Art, Fifth Avenue at 82nd St., New York City.

Apr. 5: Design Seminar, Indiana Society of Architects — University of Notre Dame, South Bend, Ind.

Apr. 5–9: Regional Meeting and Exhibit, American Association of School Administrators — Boston.

Apr. 7–May 2: Gold Medal Exhibit, Landscape Architecture — Architectural League, 115 E. 40th St., New York City.

Apr. 8: The Film Approach to Art; ninth of 12 evenings presented by the Junior Council — Auditorium, Museum of Modern Art, 11 W. 53rd St., New York City.

Apr. 22: "Modern Artists on Artists of the Past; tenth of 12 evenings presented by the Junior Council — Auditorium, Museum of Modern Art, 11 W. 53rd St., New York City.

OFFICE NOTES

Offices Opened, Reopened

• Eric Kebbon, Architect, has announced that he is now established at 17 East 49th Street, New York City, for the general practice of architecture and as a consultant in school planning and construction.

• Thomas H. Philibert Jr., A.I.A., has announced the opening of an office for practice in the general field of architecture and in the field of interior architecture with special emphasis on retail merchandise planning and designing, at 70–78 Willoughby Street, Brooklyn 1, N. Y.

(*Continued on page 360*)

SPECIFICATION DATA

DELUXE TWIN OUTLET

CLIP this specification data sheet for simplified write-ins.



In all locations where 15-amp, 125-volt or 10-amp, 250-volt outlets are indicated and where grounding of the appliance is not required, the General Electric GE3483 brown deluxe twin convenience outlet (GE3493 for ivory) shall be installed.

G-E deluxe twin outlets are designed for easy installation and long service. May be back- or side-wired. Totally enclosed, two-piece construction is dust-resistant.

For further information on other G-E wiring devices, write

Section D6-25, Construction Materials Division, General Electric Company, Bridgeport 2, Conn.

GENERAL ELECTRIC

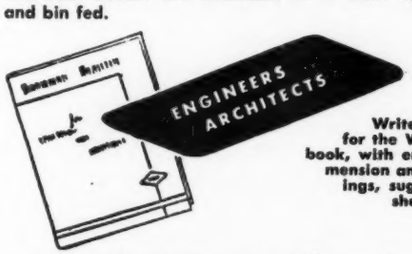
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makes a good coal-heat installation BETTER



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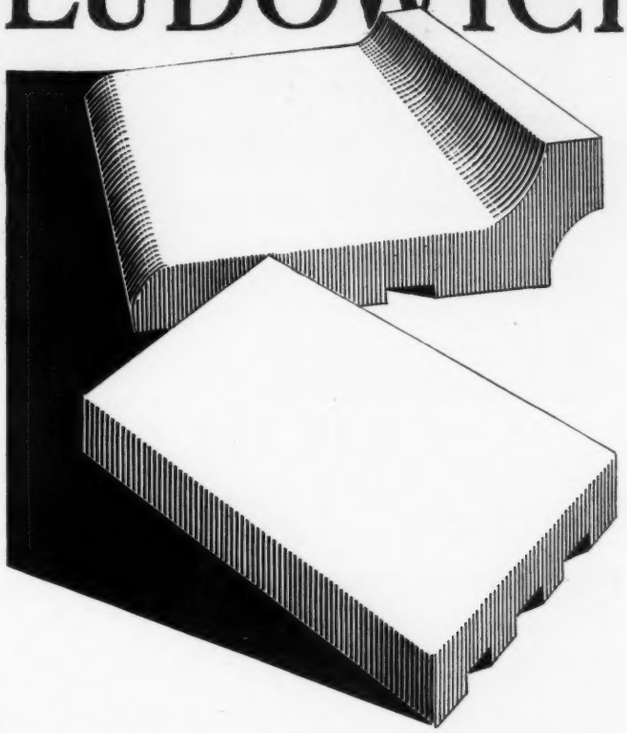


Write on your letterhead for the Will-Burt stoker data book, with engineering facts, dimension and installation drawings, suggested specification sheets, etc. Valuable!

other **WILL-BURT** *heating products* gas and oil conversion burners residential hot-water heating boilers.

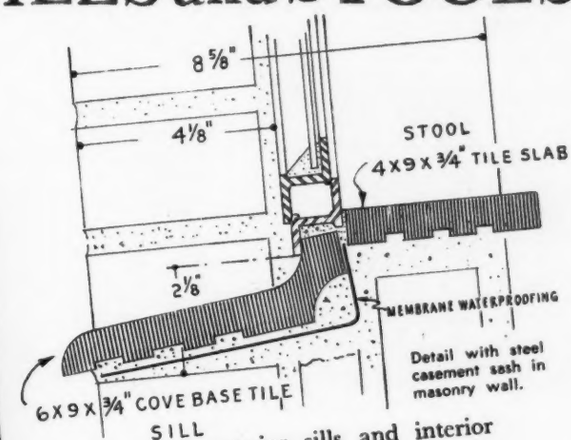
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THE RECORD REPORTS

(*Continued from page 358*)

Esso Standard Oil Company's New York Sales Division now has a single headquarters in this 50,000-sq-ft building in suburban Pelham, N. Y. Offices are air conditioned, have walls and ceilings treated acoustically for noise control, pleasant color schemes. Architect: Sidney Schenker

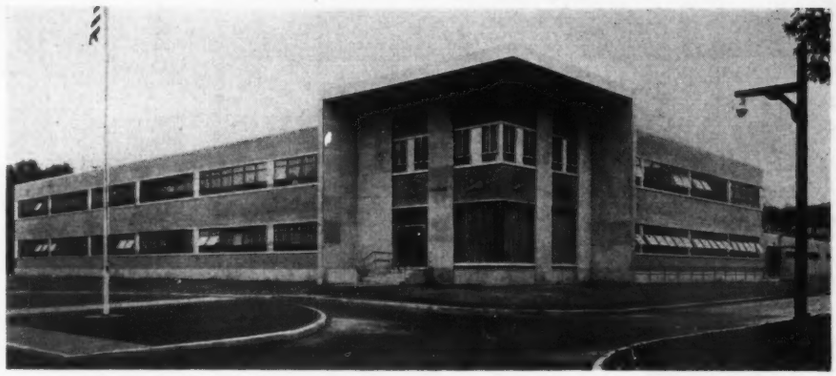
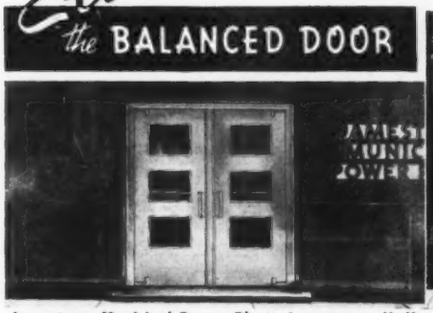


Photo: The Albert Studio



Ellison the BALANCED DOOR

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Crescent Tool Co., Jamestown, N. Y.



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Ellison the BALANCED DOOR

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representatives in 75 principal cities

New Firms, Firm Changes

• The firm of Bruce F. Barnes & Associates, Architects and Engineers, formerly McAninch, Mahnker & Barnes, Architects, has announced a change in the firm name, effective January 1, to Barnes & Snipes, Architects and Associated Engineers. Personnel will remain the same. Offices are at 436-A Vine St., Poplar Bluff, Mo.

• Raymond Harry Ervin, Architect, announces the admittance to his practice of Robert Berne, Architect, as junior partner. The firm will be known as Raymond Harry Ervin and Robert Berne, Architects, with offices at 614–616 Patterson Bldg., Denver 2, Colo.

• Faulkner, Kingsbury and Stenhouse, Architects, Ernest D. Stevens, Associate, announce the admission to membership as associates of Thomas Williams and Frederick Lear Fryer. The firm has offices at 1200 18th St. N.W., Washington, D. C.

• Stanhope B. Ficke, A.I.A., has joined Lester H. Maxon, A.I.A., and Jules J. Sells to form the firm of Maxon, Sells and Ficke, Architects and Designers, formerly Maxon-Sells. Offices of the firm are at 724 Fifth Avenue, New York 19, N. Y.

• Jackson-Solstad, Architects, have announced that the name of a partner, Frederick Meyer Jr., Architect, has been added to the firm name. Jackson, Solstad and Meyer, Architects, have offices at 625 Main Ave., Passaic, N. J.

• Matthiessen, Johnson & Green, Architects, of Stamford, Conn., have announced the dissolution of their partnership.

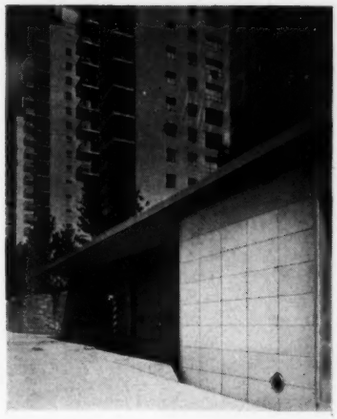
(*Continued on page 362*)

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ARCHITECTURAL

TERRA COTTA.





Write for facts on this versatile building material that's easy to obtain . . . inexpensive to maintain.

Construction detail, data, color samples, estimates, advice on preliminary sketches, will be furnished without charge.

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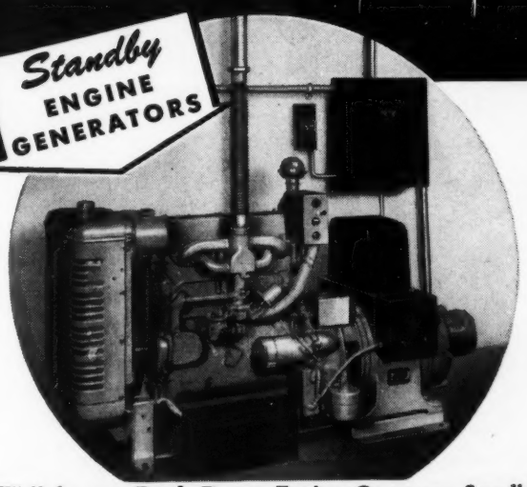
Plants at Perth Amboy and South Amboy, N. J

WHEN WIRED POWER FAILS

DEPEND ON

READY-POWER

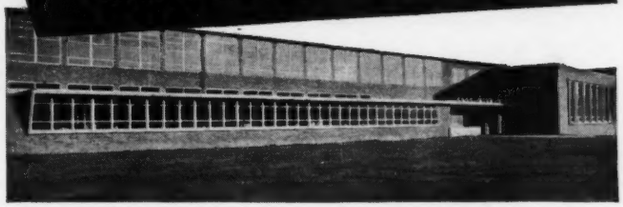
Standby ENGINE GENERATORS



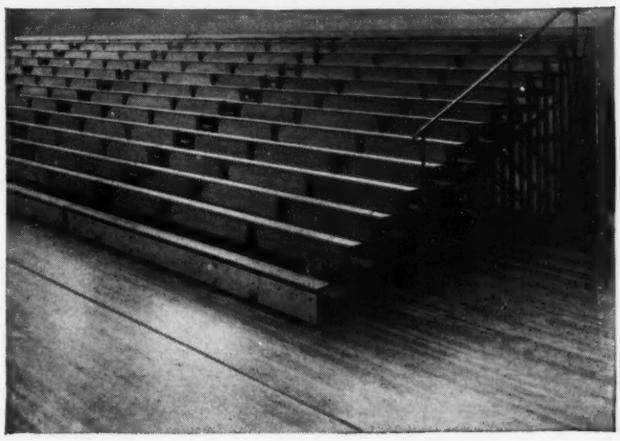
Well known Ready-Power Engine Generator Standby Units provide dependable electric power instantly when wired power fails. Continuation of vital services are assured during emergencies. Automatic or manually controlled units operate on gasoline, natural gas or Diesel fuel. 3KW to 100KW or larger. Write for literature.

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East High School, Knoxville, Tenn., Architects, Rentenbach Engineering Co.



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THE RECORD REPORTS

(*Continued from page 360*)

Workshop Associates, division of the Gabriel Company, will have what may be the first industrial laboratory designed primarily for antenna research. The two-story building in Natick, Mass., will have a roof specially designed for outdoor antenna work; the 46-acre site is large enough for several distant pattern ranges. Architect-Engineer: C. T. Main Co.





Heating and Ventilating Units

Air Volumes from 400 to 21,000 CFM

Kennard Heating and Ventilating Units are the answer to requirements of heating and filtering recirculated air, fresh air, a mixture of both, or for ventilation only. These ruggedly constructed and easily installed units, conventionally used for heating large spaces or as a central station unit to heat many small rooms, can also be utilized for a variety of special and process applications.

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Pre-heat and Re-heat Coils - 1.1 to 32.5 sq. ft. face.

Moderate tip speeds and outlet velocities.

Optional Equipment

Mixing Box and Dampers • Face and By-pass Dampers • Throwaway, Cleanable or High Velocity Filters • Target, Grid or Pan Humidifiers.

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Erard A. Matthiessen will maintain a business office at 73 E. 57th St., New York, N. Y.

Verner Walter Johnson will continue the practice of architecture at 73 E. 57th St., New York 22, N. Y.

Walter B. Green will continue the practice of architecture at Rippowam Village Road, Stamford, Conn.

• Russell, Mullgardt, Schwartz, Van Hoefen, Architects, have announced the admission to partnership of Hari Van Hoefen. The firm has offices at 1620 Chemical Bldg., St. Louis 1, Mo.

• Harrison A. Whitney, A.I.A., has announced that the firm of Sutton, Whitney & Aandahl has changed its name to Whitney, Hinson & Jacobsen. Offices are at 512 Failing Bldg., Portland, Ore.

New Addresses

The following new addresses have been announced:

William J. J. Case, Architect, 502 Candler Bldg., Atlanta 3, Ga.

Charles C. Davis Jr., Architect, 414 Roanoke Ave., Roanoke Rapids, N. C.

E. W. Hoak, Architect, 1800 Bushnell Ave., South Pasadena, Cal.

Frank W. Jackson, Architect, 206 American National Bank Bldg., 6th and Germain St., St. Cloud, Minn.

Marce'lus Wright & Son, Architects, Crozet House, 100 E. Main St., Richmond, Va.

AT THE COLLEGES

R. L. Biesele Jr. Named to Full Time Research Post

R. L. Biesele Jr., chairman of the department of electrical engineering at

(*Continued on page 364*)

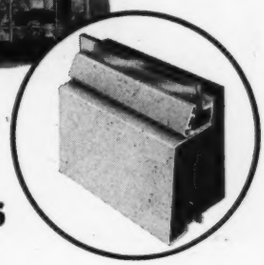


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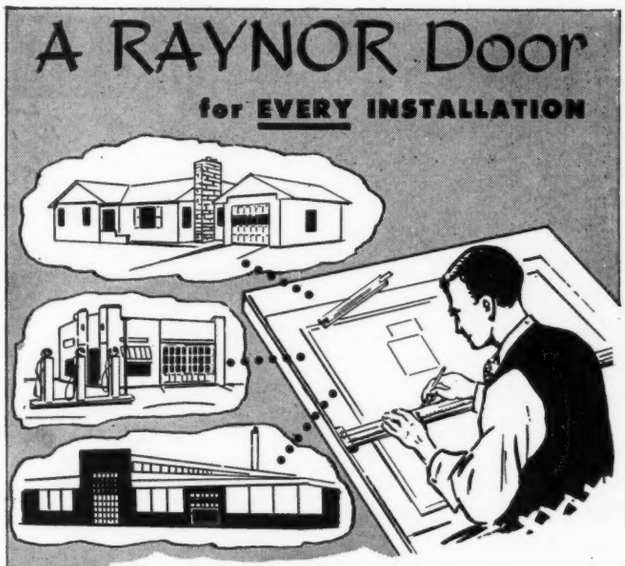


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for EVERY INSTALLATION



Residential, Commercial, and Industrial Raynor Wood Sectional Overhead doors are built complete in the Raynor Mfg. Co. plant, your assurance of a well co-ordinated quality built door!

Specify Raynor doors with confidence—the Raynor Mfg. Co. and its entire sales organization stand ready to serve you with dependable co-operation and service.

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THE RECORD REPORTS

(*Continued from page 362*)

Michigan State College this year opened its $2,000,000 Kellogg Center for Continuing Education. Its primary function is to accommodate Michigan residents who come to the campus for special courses and conferences; it will have another function as a working laboratory for hotel and restaurant management students. Photo: front elevation and parking entrance

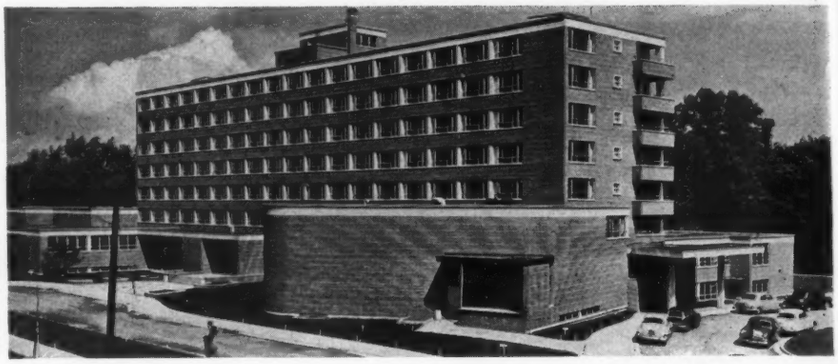


Photo: John Randall

MICHAELS
BRONZE PLAQUES

Any size, any shape, any design. Plaques for public buildings, lobbies, offices, parks and playgrounds, for memorials, name plates for desks, tellers' windows, and any other purpose. Michaels plaques are made of genuine bronze with lettering, borders and ornamentation hand chased and burnished for contrast. Tell us what you need, and we'll be glad to furnish sketches and quotations without cost or obligation. Write for illustrated literature.

Michaels also manufactures a wide range of building materials in aluminum, bronze and stainless steel, Time-Tight display cases, and parking meters. Literature is available for these products.

MICHAELS PRODUCTS

Bank Screens and Partitions	Welded Bronze Doors
Elevator Doors	Store Fronts
Lettering	Check Desks (standing and wall)
Lamp Standards	Marquises
Tablets and Signs	Name Plates
Astragals (adjustable)	Stair Railings (cast and wrought)
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Kick and Push Plates	Push Bars
Cast Thresholds	Extruded Thresholds
MI-CO Parking Meters	Museum Trophy Cases

THE MICHAELS ART BRONZE COMPANY, INC.
234 SCOTT STREET, COVINGTON, KENTUCKY
Manufacturers since 1870 of many products in Bronze, Aluminum and other metals

Southern Methodist University, has been named research professor of engineering to allow him to devote full time to his research activities, particularly in the field of daylight and illumination.

Professor Biesele, who received his engineering education at the University of Texas, was with the Westinghouse Electric Corporation as a lighting engineer from 1936 until 1943, when he joined the faculty of Southern Methodist. In 1946 he was named professor and department chairman.

Professor Biesele is a director of the Illuminating Engineering Society and a member of the American Institute of Electrical Engineers and many other professional groups.

Interior Design Workshop Announced by New School

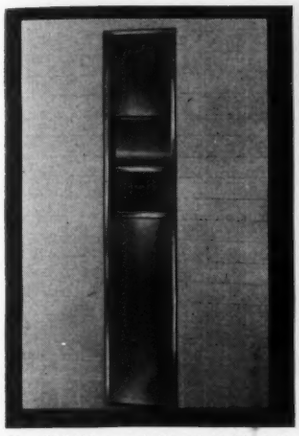
Susanne Wasson-Tucker of Knoll Associates Inc. will give a workshop in interior design during the spring term of the New School for Social Research in New York City. The term begins February 4.

The workshop will emphasize practical design problems and their professional execution. The relationship of contemporary interior design to architecture and the fine arts will be studied.

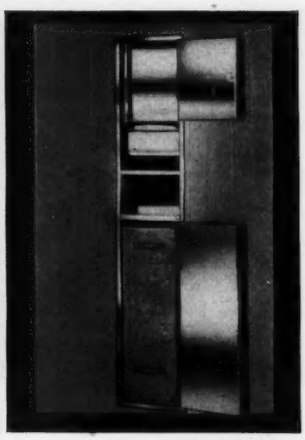
University of Illinois Awards Francis J. Plym Fellowships

Ralph Elbert Myers of the architectural firm of Kivett & Myers, Kansas City, has been named 1950–1951 Francis J. Plym Fellow in Architecture at the University of Illinois, and Robert Paul Link, an assistant professor of architecture at the university, has been named Francis J. Plym Fellow in Architectural Engineering.

(*Continued on page 366*)



No. 945 Recessed Towel Cabinet & Waste Receptacle...fabricated of stainless steel . . . designed for efficiency.



Removable waste receptacle. Towel compartment dispenses approximately 400 "C" type folded towels.

For *really* modern washrooms—

the Scott No. 945 Recessed Towel Cabinet and Waste Receptacle

Here's the fixture designed specifically to meet today's growing trend to recess fixtures.

For a detailed dimension and installation drawing of the No. 945 fixture or for the help of a trained Scott consultant, write Washroom Advisory Service, Dept. A-6, Scott Paper Company, Chester, Penna.

SCOTT

Symbol of Modern Washrooms

Trade Mark "Washroom Advisory Service" Reg. U. S. Pat. Off.



ROWE ADJUST-A-DOCKS

Eliminate Costly Hand Loading

1. Brings dock to level of any truck bed.
2. Speeds loading by fork and lift truck directly into carriers.
3. Eliminates dock hazards.
4. Floats at truck level.
5. Sturdy hydraulic finger-tip control.
6. Pays for itself in 30 days.

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See our Catalog in Sweet's Architectural File 6b ROW
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Sweet's Engineering File 33a ROW
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ROWE METHODS, INC.

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Saves *Money* and *Space* in 260 Apartment Units!



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"***A considerable savings*** in space and materials was made possible by our use of Har-Vey Rolling Door Hardware installations in this new apartment building,"* says A. Osborne Willauer, Architectural Consultant for the owners, New England Mutual Life Insurance Company in Boston.

"By leaving the track exposed on the interior of the kitchen, we were able to use a 2-inch plaster partition, which saved a great deal in a building with 260 units."

"***Our tenants benefited*** from additional living space and an extra wide door, smooth and easy to operate."

"***Installation was extremely simple*** and compared favorably in cost with that of a conventional door."

*100 Memorial Drive, Cambridge, Mass.
Architects: William Hoskins Brown, Vernon De Mars, Robert Woods Kennedy, Carl Koch and Ralph Rapson
Engineers: Thomas Worcester, Inc.
Builders: George A. Fuller Company

These features are making Har-Vey first choice all over the nation:

★ **100% Rustproof** ★ **Self-lubricating Oilite Bearings**
★ **Quick, easy installation** ★ **Positive locking**
★ **Superior parts made by leading U. S. Manufacturers**
★ **Sizes to fit all residential rolling doors**

Write for full details -- Address Hardware Division T

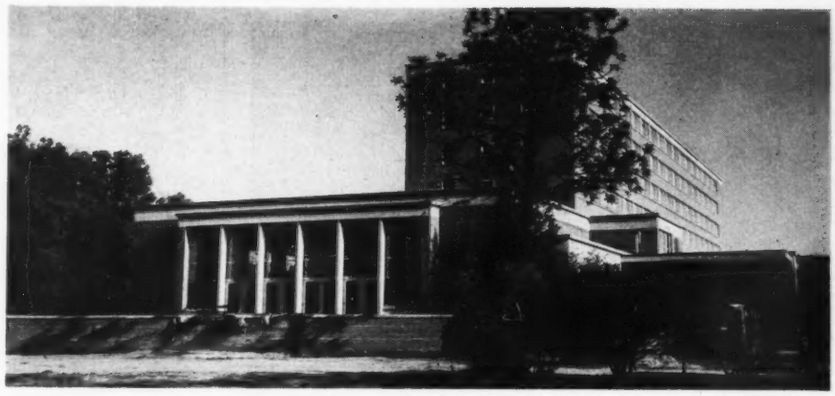
METAL PRODUCTS CORPORATION HAR-VEY HH HARDWARE
807 N. W. 20th St. Miami, Florida

Western Division: Calmetco, Inc. 609 S. Anderson, Los Angeles, California

THE RECORD REPORTS

(*Continued from page 364*)

Here is the rear facade of the Kellogg Center at Michigan State College (front elevation, page 364). The eight-story building of brick on concrete and steel construction has 193 hotel-type double rooms; dining facilities for more than 1000 persons; an auditorium seating 355; parking lot for 350 cars adjoining the building on its 10-acre campus site



John Randall Photo

FACTS FOR ARCHITECTS
ABOUT "CONSTRUCTION BY ADHESION"*

HERE ARE NEW METHODS WHICH MEAN SUBSTANTIAL SAVINGS IN LABOR AND MATERIALS FOR MODERN CONSTRUCTION in both *NEW* building and *MODERNIZATION*

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"CONSTRUCTION BY ADHESION"
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WRITE TODAY FOR RECOMMENDED SPECIFICATIONS ON
1. Setting Genuine Clay Tile. 2. Insulating Ducts. 3. Insulating walls and ceilings either by Direct Adhesion or in conjunction with Surface Anchors. 4. Installing floor runners; bonding furring strips.

1.



Today it is normal procedure to install clay tile in hotel bathrooms without losing a night's revenue. This illustration shows one of the 144 rooms in the White Plaza Hotel, Dallas, Texas, in which MIRACLE ADHESIVE was used to do the job from the time the guest left his room in the morning until he returned that afternoon.

2.



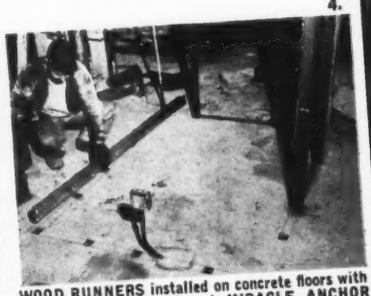
Plaster applied over wire and cork which has been attached to aluminum ducts using MIRACLE ADHESIVE and MIRACLE SPINDLE ANCHORS at John Hancock Mutual Life Insurance Co. Building, Boston, Mass. ARCHITECT, Cram and Ferguson. BUILDER, Turner Construction Co.

3.



FIBERGLAS insulation, Type PF-613, 2" thick — bonded to concrete ceiling using MIRACLE PRONGED ANCHORS at Radio City Studio 6B, New York, N. Y. CONTRACTOR, William J. Scully, Inc., New York, N. Y.

4.



WOOD RUNNERS installed on concrete floors with MIRACLE ADHESIVE and MIRACLE ANCHOR NAILS to support 2" solid partitions. Washington Circle Apartments, Washington, D.C. GENERAL CONTRACTOR, Charles H. Tompkins Company.

VISIT MIRACLE EXHIBIT AT ARCHITECTS SAMPLES CORP. 101 PARK AVE., NEW YORK CITY

The awards, which were established by the late Francis J. Plym, an 1897 graduate in architecture and founder of the Kawneer Co. of Niles, Mich., provide an opportunity for outstanding graduates of the department to study and travel abroad.

Each stipend has been increased this year from $1200 to $1700 and the required length of study has been set at six months instead of a year, to meet inflated costs of European travel.

Scholarships, Fellowships

• The Kate Neal Kinley Memorial Fellowship of $1000 for advanced study of the fine arts in this country or abroad is offered by the University of Illinois committee which administers it for the 21st time. Applications will be received till May 15.

Candidates must be graduates in music, art or architecture (design or history) of accredited colleges; less than 24 years of age on June 1, 1952 (veterans may deduct time in service and some other slight deviations may be made).

Requests for application blanks and instructions should be addressed to Dean Rexford Newcomb, College of Fine and Applied Arts, Room 110, Architecture Building, University of Illinois, Urbana, Ill

• The F. W. Chandler Fellowship in City Planning, amounting to $1200 for the academic year 1952–1953, has been announced by the Department of City and Regional Planning at the Massachusetts Institute of Technology.

The award will be made to an applicant for admission to the graduate course whose background is such that he may expect to receive the Master of City Planning degree within two years. Consideration will be given to type of previous training and experience as well as to academic rating.

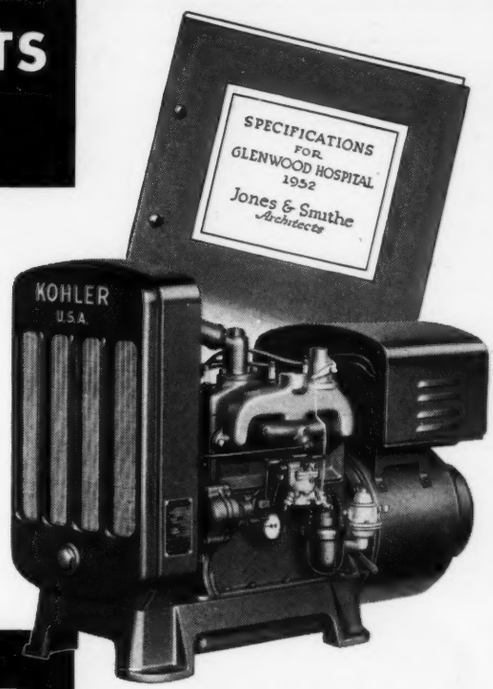
(*Continued on page 368*)

KOHLER ELECTRIC PLANTS

Independent Source of Electricity

Stand-by protection when central station electric power fails

When storms or accidents cut off power, a stand-by Kohler plant takes over the critical load automatically. Specified for hospital operating rooms, exit lights, X-rays, sterilizers, iron lungs, call bells; for schools, stores, theatres, to prevent darkness and confusion; for homes to maintain automatic heat, refrigeration. Stand-by electricity assures continuous service for processing plants, communication systems, hatcheries, greenhouses, hotels, airports, refineries, filling stations, sewage treatment plants, air raid shelters, first aid stations. Sizes 750 watts to 15KW. Write for folder 3-F.



Model 5E61, *5KW, 115/230 volt AC. Automatic stand-by. Length 40", width 17", height 28".*

Kohler Co., Kohler, Wisconsin. Established 1873

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AIR-COOLED ENGINES • PRECISION CONTROLS



club champion . . . that's the title conferred on "Modernfold" doors by club operators and members all over the country. Here "Modernfold" doors separate a lounge from the dining room. On party nights these "movable walls" fold out of the way to combine lounge and dining room into one banquet hall.

"Modernfold" doors have an almost limitless number of applications. Available in sizes and types to fit practically every opening . . . in colors to blend perfectly with any decorative scheme. For more information write: New Castle Products, New Castle, Indiana.

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"Marylander" Apartments, Baltimore, Maryland. Hal A. Miller, Architect; Installed by Southern Plate Glass Co.

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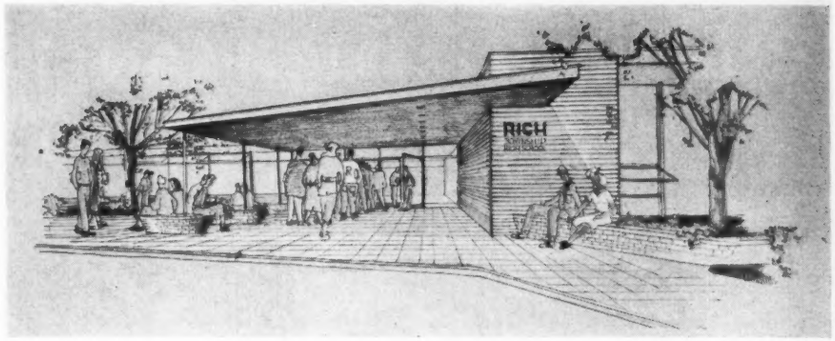
THE ALUMILINE CORPORATION
1540 COVERT STREET BROOKLYN 27, N. Y.

THE RECORD REPORTS

(*Continued from page 366*)

Construction of the $1,250,000 Rich Township High School for Park Forest, Ill., recently got a go-ahead in a court ruling on state legislation that threatened to block it. The school, designed by Loebl, Schlossman and Bennett, architects for American Community Builders' planned community 27 miles from Chicago, will be built in two stages, opened in Fall 1953

Hedrich-Blessing Photo



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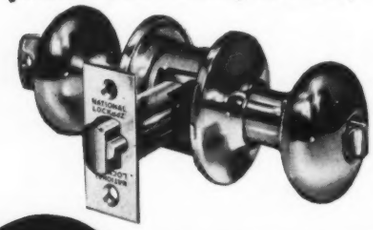
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Fellowship applications from new students must be accompanied by applications for admission to the Graduate School. Both applications must be made on forms which may be obtained from the Director of Admissions; they should be completed and returned to him by March 1.

Further information is available from Prof. Frederick J. Adams, Department of City and Regional Planning, Room 7–333, Massachusetts Institute of Technology, Cambridge, Mass.

• The Ian Lewis Traveling Scholarship in Architecture, $1000, will be awarded "on or before" May 1. Applications in prescribed form must be sent by April 1 to the Secretary of the Managing Committee, Dean S. W. Little, School of Architecture and Allied Arts, University of Oregon, Eugene, Ore.

The scholarship is administered jointly by the School of Architecture and the Oregon Chapter of the American Institute of Architects.

• The Bemis Foundation Fellowship for graduate research in housing is offered for the second time by the Massachusetts Institute of Technology. Applications are due March 1.

The Fellowship will provide up to $2500 for the academic year 1952–53 for research in any significant aspect of housing, from broad studies of needs and requirements to specific problems in management, design, procurement, production and marketing.

Requests for information of application blanks should be addressed to Burnham Kelly, Director, Albert Farwell Bemis Foundation, Massachusetts Institute of Technology, Cambridge 39, Mass.

• Six two-year engineering scholarships of $1000 each have been established at

(*Continued on page 370*)

For the Finest in Heating ...Come to BURNHAM

(SINCE 1873)



The famous BASE-RAY* Radiant Baseboard offers the architect a highly popular design element for modern heating at its best. But it is only one item in a quality line of heating equipment that covers practically every problem confronting the architect. For instance:

• **PACEMAKER OIL FIRED BOILER,** outstanding cast-iron unit for small and medium sized homes . . . a leader in the value parade.

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SELF-CLOSING OUTLET Positively PREVENTS SHOCKS, BURNS and SHORT CIRCUITS from insertion of wire, metal, etc.

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help the sale!

Few other conveniences in the home are used more or afford the architect, builder or contractor greater reward than when Lawson cabinets of adequate size are installed.

Suggested specifications

Lawson 4132 Bathroom Cabinet or equal/or—

- ONE-PIECE DRAWN SEAMLESS STEEL BODY —BONDERIZED AFTER FORMING for rough opening 14 x 18 x 3½".
- Mirror shall be 16 x 22" Plate Glass conforming to National Bureau of Standards Specification CS27-36, with Polished Stainless Steel Frame.
- Door shall be supported by full length White Enamel Piano Hinge.
- Cabinet shall be supplied with 2 Glass Shelves and Stainless Steel removable and adjustable Shelf Supports. Bar Type Door Stop. Razor Blade Disposal Slot.
- Finish—Baked White Enamel.

Write for catalog of Lawson Bathroom Cabinets, Lavatory Mirrors and Chrome Accessories.

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802 Evans Street
Cincinnati 4, Ohio
Est. 1816

WORLD'S LARGEST BUILDERS OF BATHROOM CABINETS

LAWSON
135 YEARS

(*Continued from page 368*)

the University of Illinois, Purdue University and Illinois Institute of Technology by Ceco Steel Products Corporation, manufacturers of metal construction products and building materials.

Scholarships are for the junior and senior years. Recipients at Illinois and Illinois Tech must be enrolled in civil or general engineering. Recipients at Purdue must be in civil or mechanical engineering. Actual awards will be made by each school's committee on undergraduate scholarships.

The first six scholarships will be awarded in May 1952 for the two college years starting in September.

CHARLES W. BRADLEY, 88; ROCKFORD, ILL., ARCHITECT

The recent death of Charles W. Bradley, 88, at his Rockford, Ill., home, ended a lifelong connection with architecture in Rockford.

Mr. Bradley was the son of Rockford's first architect, George Bradley, and retired in 1946 from the firm of Bradley and Bradley, in which he had been associated with a son, Harold Bradley. A grandson, Charles M. Bradley, then joined the firm, which continues in Rockford.

Mr. Bradley designed many public buildings and industrial plants in and around Rockford, including the original Rockford Country Club and Bel-Mar Country Club, the National Sewing Machine plant in Belvidere, Ill. and the Greenlee plant in Rockford. He began working in his father's office at the age of 14.

With Frank Carpenter, who joined the Bradley firm in 1899, he designed Memorial Hall and the public library in Rockford. The partnership was dissolved in 1904. At the beginning of World War I, a group of six architects and engineers, headed by Mr. Bradley, designed and supervised the construction of Camp Grant, Ill.

Among the buildings he designed with his son was the Illinois National Guard Armory, Rockford, acclaimed by the American Institute of Steel Construction as an outstanding engineering design.

Mr. Bradley was a charter member of the Illinois Society of Architects.

ARTHUR HEATON, 53 YEARS ARCHITECT IN WASHINGTON

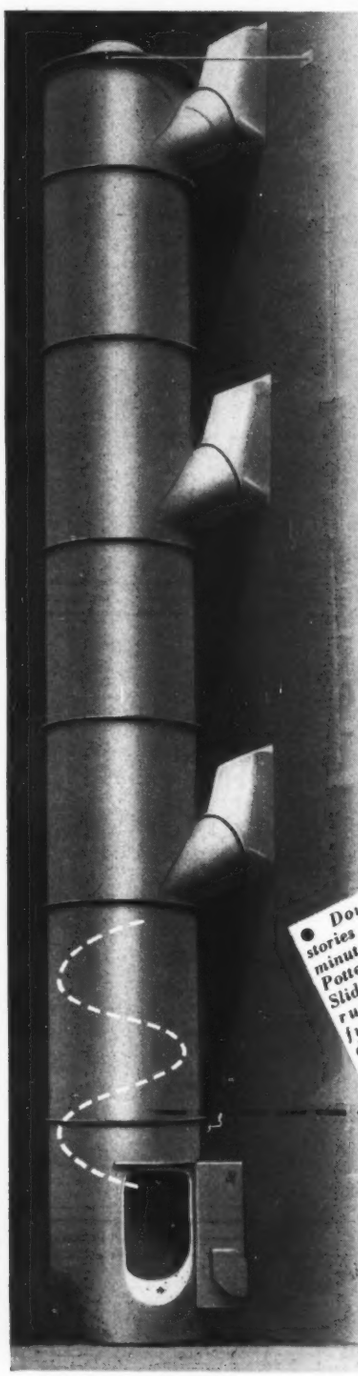
Arthur Berthrong Heaton, 76, who was a past president of the Washington Chapter of the American Institute of Architects, died recently of a heart attack. He had practiced in Washington for 53 years.

Mr. Heaton, who was known for his dislike of "modern architecture," was supervisory architect for the first 14 years of construction on the Washington Cathedral. He designed buildings in Washington for the National Geographic Society, George Washington University, the Methodist Home for the Aged, the Washington Home for Foundlings and the John Dickson Home. He also designed the Y.W.C.A. building at 17th and K streets N.W. in Washington.

Others of his buildings were branch offices for the Washington Loan & Trust Company, the McLachlen Banking Corporation and the Chevy Chase Savings Bank. He also designed many Washington residences.

Mr. Heaton was a founder and past

(*Continued on page 372*)



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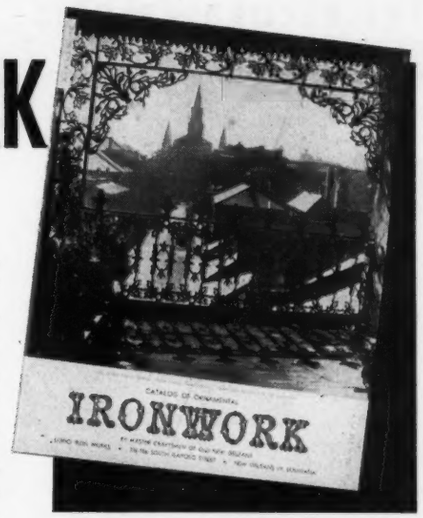
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THE RECORD REPORTS

(*Continued from page 370*)

W. L. Coleman Photo



Security Title Insurance and Guarantee Company's recently opened office building in San Bernardino, Cal., has reinforced walls, floors and foundations, a ground floor without dividing walls or partitions so clients can see the workings of the plant. A mezzanine has additional office space. Architect: Raymond R. Shaw

Leading Architects *Specify* TECO RAFTERS For Military and Civilian Housing

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With only four basic wood members, we were able to save both material and labor, thus saving money for the Owners.

Also, the clear spans permitted flexibility of interior partition layouts not normally economically secured with conventional joists and rafters.

Very truly yours,

By George W. Petticord, Jr.
George W. Petticord, Jr.

Over 80,000 private, military, rental, and public housing units have used Teco trussed rafters in individual homes and garden apartments.

Teco trussed rafters are widely used too, for churches, schools and small industrial buildings.

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president of the Washington Building Congress and worked for better craftsmanship in building. He was an advocate of craftsmanship awards for outstanding workers on construction projects.

JOEL BARBER, ARCHITECT AND DECOY DUCK EXPERT

Joel Barber, one of the first ten architects licensed in New York State, died last month at his home in Wilton, Conn. He was 75 years old.

Mr. Barber, who had been with the architectural firms of Parrish & Schroeder and Raymond Hood & Frederick A. Godley, was also an authority on American folk art. He specialized in antique and contemporary decoy ducks, a primitive form of sculpture of which he had one of the largest collections.

Mr. Barber was consulting architect-designer on numerous buildings, including the E. I. du Pont de Nemours Building in Wilmington, Del., the *New York Daily News* building, the McGraw-Hill building, and units in Radio City. He designed the South Norwalk, Conn., City Hall.

He wrote and illustrated "Wildfowl Decoys" in 1934 and "Long Shore" in 1939. He was the author also of many magazine articles on art, sport and Americana.

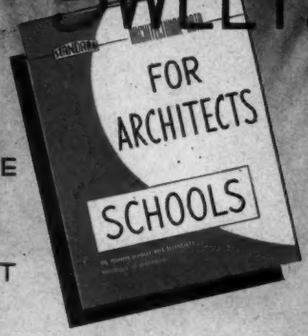
A graduate of the Cornell School of Architecture, Mr. Barber studied also in Paris and Rome. He was the art director for the Eastman Theater in Rochester.

BENJAMIN A. HOWES, 76; DESIGNED WAR HOUSING

Benjamin A. Howes, 76, who was long employed on Federal projects and developed specifications of billions of dollars worth of Government and war housing, died January 9 at Walpole,

(*Continued on page 374*)

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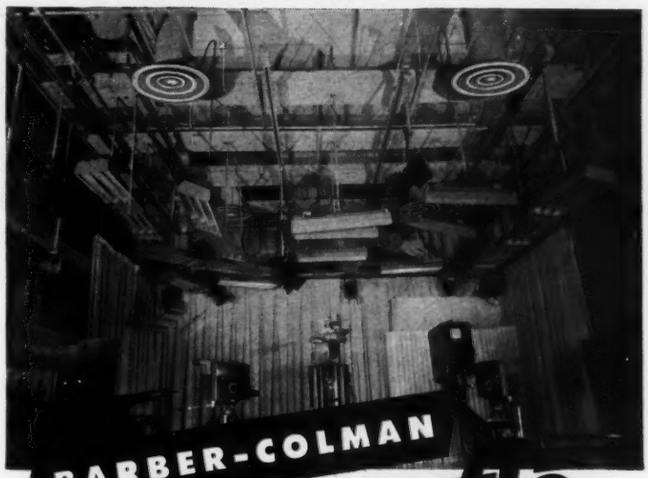
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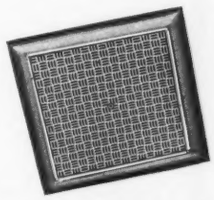


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LINE-O-FLO line type air distribution outlets are illustrated and discussed in bulletin F-2741.

BARBER-COLMAN COMPANY
1232 ROCK ST., ROCKFORD, ILLINOIS

THE RECORD REPORTS

(*Continued from page 372*)

The Administration Building of the 722-bed veterans' hospital to be built in Quezon City, Luzon Island, P. I. Allied Technologists, Inc., a Manila architectural firm, prepared the plans, which call for a general, medical and surgical section, a neuropsychiatric section and a TB section. Cost: about $9 million

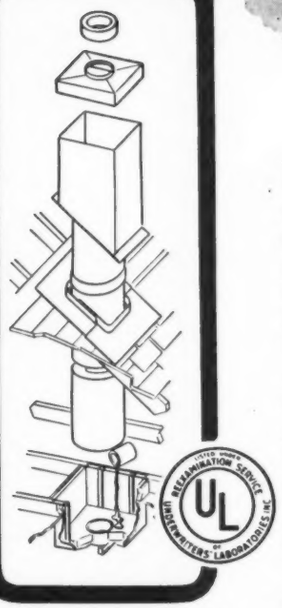


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N. H. He had moved there from Hartford, Conn., a month earlier.

Mr. Howes spent the major years of his active career in New York, where he became known as a specialist in reinforced concrete, electro-metallurgy and other subjects in the construction field.

Before establishing his office in New York, he had been employed by the Randfontein Estates in South Africa on mining equipment and construction and by firms in London and elsewhere.

In 1934 he became staff engineer for the Federal Emergency Relief Administration and successively senior engineer and chief of the Materials Intake Section of the Resettlement Administration, chief of specifications and materials for the United States Housing Authority and later the Federal Public Housing Administration.

His memberships included the American Society for Testing Materials and the Society of American Military Engineers. Mr. Howes wrote "Building by a Builder" and many technical papers. He was a graduate of the Massachusetts Institute of Technology.

CHESTER ALLEN; HEADED LOCKWOOD GREENE FIRM

Chester S. Allen, president of Lockwood Greene Engineers Inc., at his retirement in 1950, died last month in Auburndale, Mass. He was 70 years old.

Mr. Allen, who joined the architectural engineering firm in 1910, had supervised construction work in South America, Turkey, Russia and other European countries.

Before joining Lockwood Greene he was a consulting engineer with Sanford E. Thompson and edited several books dealing with reinforced concrete.

Mr. Allen studied at Brown and Cornell Universities. He was a member of many professional societies.

(*News continued on page 376*)

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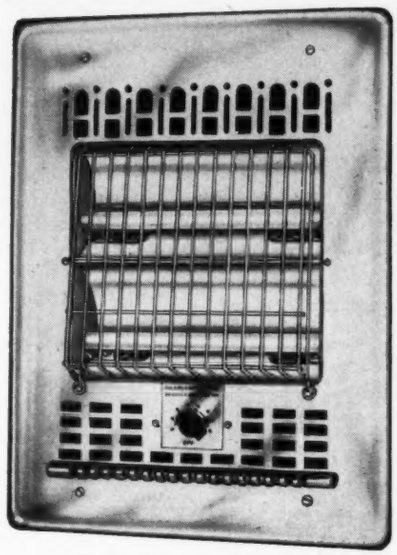
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• Booklet with samples sent on request.

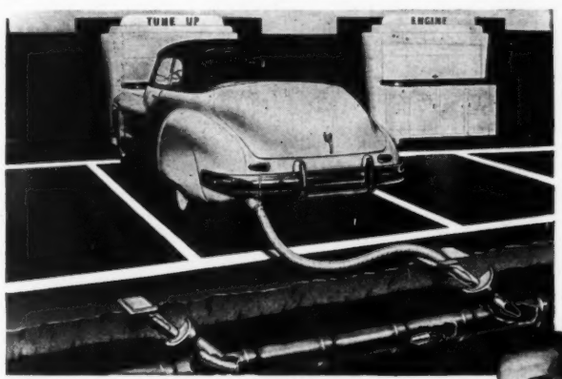
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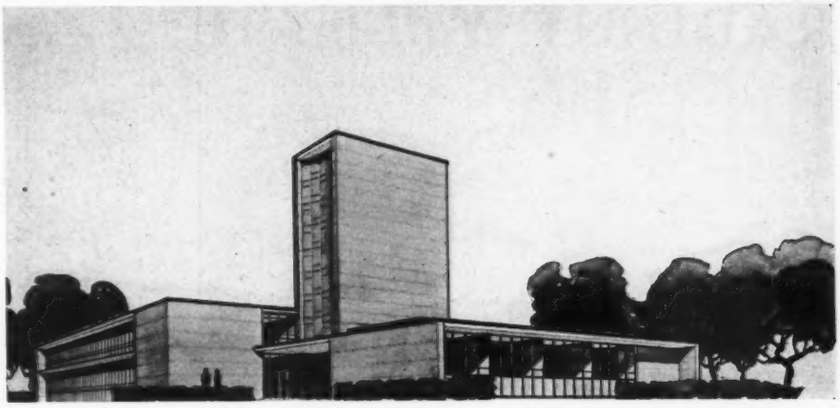
Dept. 850, Morningside Heights, New York 27, New York

(*Continued from page 374*)

RICE INSTITUTE BUILDS FOR NUCLEAR RESEARCH

The defense program provides the impetus for construction of the first portion of Rice Institute's projected Engineering-Physics Laboratory Building in Houston.

The High Voltage Laboratory (photos of renderings at right and below) will house a 5,500,000-volt Van de Graaff Generator which is being loaned to Rice by the U. S. Atomic Energy Commission for additional research in the basic phases of nuclear reactions.



Laboratory rooms, work spaces, equipment rooms, a target room and an office are also included in the present project, which is estimated to cost $225,000. A large future addition will comprise laboratory and classroom spaces for an engineering physics department.

The general construction will be structural steel frame; concrete floor slab on fill; concrete roof deck on bar joists; face brick exterior walls; glazed structural facing tile interior wall finish; quarry tile and cement finish floors; acoustical tile ceilings; and steel sub-frame window walls and windows.

At the top of the 70-ft-high tower will be a 20-ton rail-mounted hoist to remove the steel tank from the generator when repairs and adjustments are required. The laboratory will contain about 150,000 cu ft.

Architects are George Pierce and Abel B. Pierce of Houston. Walter P. Moore is the structural engineer and H. E. Bovay Jr. is the mechanical engineer. Expected completion date is December 1952.

Shoemake-Stiles Photos

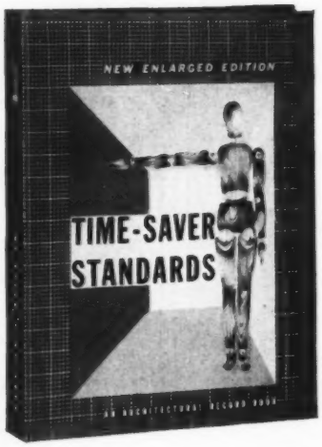


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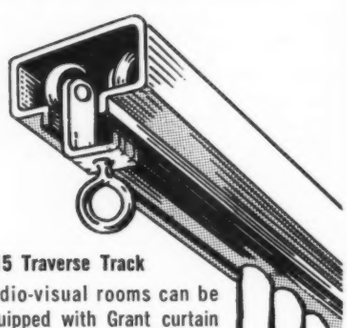
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THE RECORD REPORTS

(*Continued from page 14*)

to rise somewhat above previous estimates. Production of steel and aluminum is also expected to rise during 1952; but the main results of the expansion programs will not be felt until late in 1952 and in 1953. Any significant expansion of the nation's copper supply is a still more distant prospect.

The Wilson report noted the prospect of increased requirements in such basic public services as schools, hospitals and highways, and asserted that these additional demands "must be provided for." Inherent in the provision of more materials in these fields, as the report pointed out, is a curtailment in the supplies for other purposes.

Stabilization Factors Noted

For economic stabilization as well as material shortage reasons the economists are reducing new investments in construction, equipment and inventories. Specific fields to be hit by the action are "non-essential commercial construction, excessive inventories, non-essential housing and producers' equipment and industrial construction where capacity already exists.

The Wilson report dealt with conservation of materials in some detail, citing copper savings that will result from standardization and simplification of builders' hardware and from exploration of the possibilities of aluminum as a substitute.

Civil Defense: Score Sheet

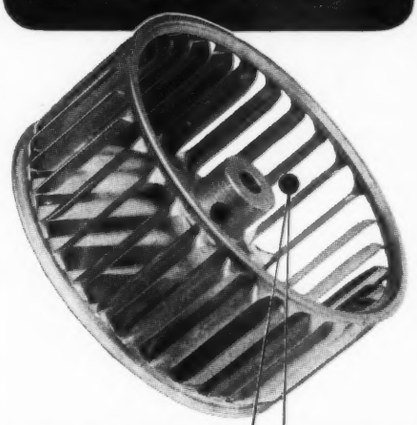
Summing up progress in civil defense, the report noted that the American Institute of Architects, the American Society of Civil Engineers, and the Associated General Contractors of America are assisting at the national level as well as locally in the development of a shelter program by the Federal Civil Defense Administration.

Teams of shelter specialists have visited 67 principal cities considered to be primary target areas. They have assisted local officials in planning surveys of shelter possibilities. Of the primary target cities, 25 per cent are now conducting such surveys; another 25 per cent are ready to begin; the other half of the 67 centers are still in the planning stage.

Congress last year provided no money for aid in the construction of shelters, though it did vote states substantial sums for medical items, fire pumps, rescue equipment, warning devices and radio communication.

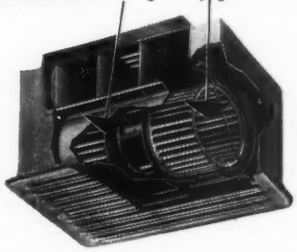
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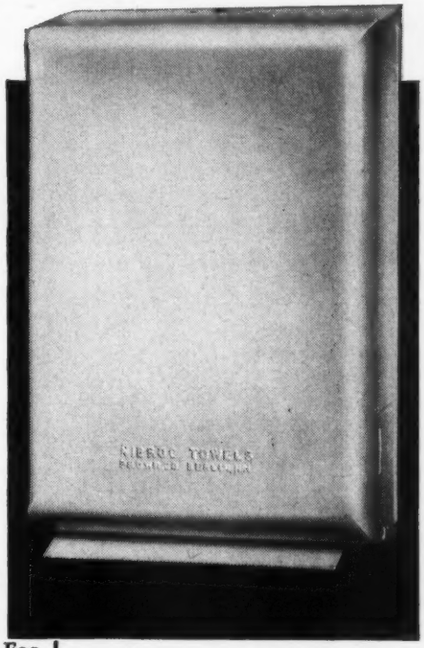
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REQUIRED READING

(*Reviews continued from page 48*)

The architect should be interested in the author's discussion of how different heating systems will affect interior design, and in the chapter, "How to Choose a Heating System," which includes representative costs of various heating systems, and the pros and cons of different types of systems.

NEW ENGLAND RESTORATION

Old Sturbridge Village. A Camera Impression. By Samuel Chamberlain. Hastings House (41 E. 50th St., New York, N. Y.), 1951. 7 by 9¼ in. 68 pp., illus. $3.75.

Six miles from the Connecticut border in lower Massachusetts, just off the main highway from New York to Boston, lies Old Sturbridge Village — New England's prime contribution to early American restoration, and the subject of this volume by Samuel Chamberlain. Here on the banks of the Quinebaug River, Albert B. and J. Cheney Wells have re-assembled as a setting for their remarkable collection of early American furniture, implements, and vehicles, a village community which functions today in the surroundings of pre-industrial-revolution New England. Samuel Chamberlain's objective has been "to give *at least* an impression of the charm of Old Sturbridge Village, a hint of its varied collections, and a glimpse of its highly praised crafts programs."

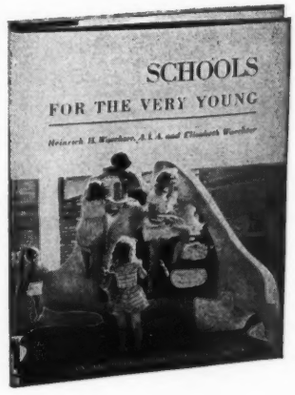
Through 130 hitherto-unpublished photographs of both exterior and interior views, Chamberlain not only conveys the charm of Old Sturbridge, but clearly indicates the nature and extent of the collections it was created to house. In the active crafts program, the Wells offer the 20th century visitor a glimpse of early New England life. Pictures of the weaver at her loom and the wood turner at his lathe, as well as the cabinet maker, potter and metalsmith, bring the village crafts to the book.

The fine photography and the thoroughness with which *Old Sturbridge Village* was compiled have made it an outstanding camera impression of this remarkable community. It can only be regretted that the photographs were crowded on so small a page and not displayed to full advantage.

(*Reviews continued on page 382*)

Schools for the Very Young

by HEINRICH H. WAECHTER, A.I.A.
and ELISABETH WAECHTER



THOUGH many volumes have been written about school design, "Schools for the Very Young," a brand new book just off the press, is — so far as we know — the first in which an architect and a child educator have collaborated to provide an up-to-date treatise on the requirements of the particular type of school demanded for the proper training of the very young child.

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The outdoor space and its proper equipment are thoroughly covered from the standpoint of a capable architect who has given much thought to the problem. Technological problems of construction, lighting, ventilation, mechanical equipment, etc., are scrutinized in the light of the most recent practice. A wealth of illustrations add both interest and information, and a selective bibliography will aid further study.

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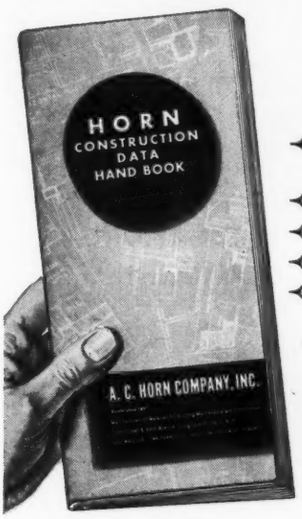
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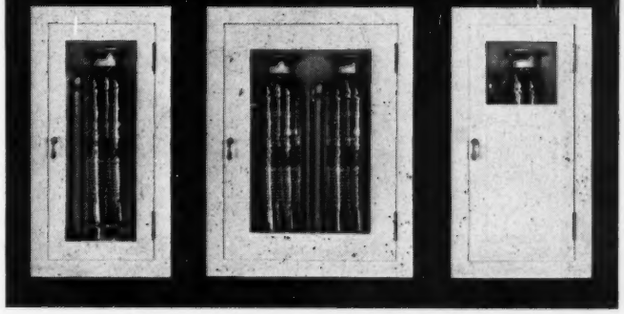
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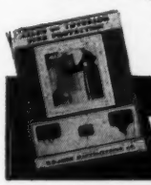
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NEW EDITIONS

(*Continued from page 380*)

CIVIL ENGINEERING DATA

***Design.** By Elwyn E. Seelye. John Wiley & Sons, Inc. (440 4th Ave., New York 16, N. Y.), 1951. 9½ by 12 in. 521 pp., illus. $10.00.*

This is the second, and completely revised and expanded edition of Mr. Seelye's well known data book covering each main field of civil engineering: structures, sanitation, water supply, drainage, roads, airfields, docks, bridges and soils. New material in this edition includes in part: a non-technical discussion of soil mechanics, up-to-date airfield data and layouts, standards for swimming pools, and further data on highways including standards from the New Jersey Turnpike.

Companion volumes are a second edition of *Specifications and Costs*, which includes sample specifications for nearly every type of building and heavy construction, and *Field Practice*, which gives the engineer the data he needs to inspect engineering work.

BOOKS RECEIVED

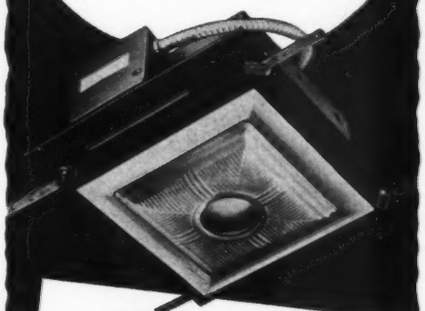
***Shopping Centers, Design and Operation.** By Geoffrey Baker and Bruno Funaro. Reinhold Publishing Corp. (330 W. 43rd St., New York, N. Y.)* — Description and illustrations of neighborhood, community and regional shopping centers throughout the U. S., plus analyses of such problems as parking, freight handling, pedestrian circulation, etc.

***Two-Thirds of a Nation.** By Nathan Straus. Alfred A. Knopf, Inc. (501 Madison Ave., New York, N. Y.)* — A valuable and much needed summary of all aspects of present day housing, directed primarily to the needs of the middle-income group.

***Architectural and Engineering Law.** By Bernard Tomson. Reinhold Publishing Corp. (330 W. 42nd St., New York, N. Y.)* — A legal guide for architects and engineers which helps to clarify the many state and federal regulations that apply to the architectural and engineering fields.

***The Modern Factory.** By Edward Mills, F.R.I.B.A. The Architectural Press (13, Queen Anne's Gate, S.W. 1, London)* — The aim of this book is to encourage the construction of better designed factory buildings which will contribute to the welfare both of the worker and of the community.

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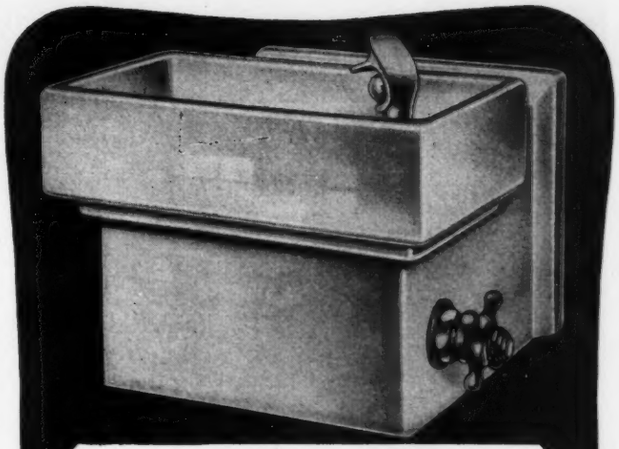
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Civil Defense: Score Sheet

Summing up progress in civil defense, the report noted that the American Institute of Architects, the American Society of Civil Engineers, and the Associated General Contractors of America are assisting at the national level as well as locally in the development of a shelter program by the Federal Civil Defense Administration.

Teams of shelter specialists have visited 67 principal cities considered to be primary target areas. They have assisted local officials in planning surveys of shelter possibilities. Of the primary target cities, 25 per cent are now conducting such surveys; another 25 per cent are ready to begin; the other half of the 67 centers are still in the planning stage.

Congress last year provided no money for aid in the construction of shelters, though it did vote states substantial sums for medical items, fire pumps, rescue equipment, warning devices and radio communication.



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REQUIRED READING

(*Reviews continued from page 48*)

The architect should be interested in the author's discussion of how different heating systems will affect interior design, and in the chapter, "How to Choose a Heating System," which includes representative costs of various heating systems, and the pros and cons of different types of systems.

NEW ENGLAND RESTORATION

Old Sturbridge Village. A Camera Impression. By Samuel Chamberlain. Hastings House (41 E. 50th St., New York, N. Y.), 1951. 7 by 9¼ in. 68 pp., illus. $3.75.

Six miles from the Connecticut border in lower Massachusetts, just off the main highway from New York to Boston, lies Old Sturbridge Village — New England's prime contribution to early American restoration, and the subject of this volume by Samuel Chamberlain. Here on the banks of the Quinebaug River, Albert B. and J. Cheney Wells have re-assembled as a setting for their remarkable collection of early American furniture, implements, and vehicles, a village community which functions today in the surroundings of pre-industrial-revolution New England. Samuel Chamberlain's objective has been "to give *at least* an impression of the charm of Old Sturbridge Village, a hint of its varied collections, and a glimpse of its highly praised crafts programs."

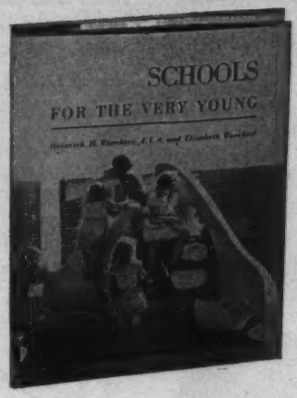
Through 130 hitherto-unpublished photographs of both exterior and interior views, Chamberlain not only conveys the charm of Old Sturbridge, but clearly indicates the nature and extent of the collections it was created to house. In the active crafts program, the Wells offer the 20th century visitor a glimpse of early New England life. Pictures of the weaver at her loom and the wood turner at his lathe, as well as the cabinet maker, potter and metalsmith, bring the village crafts to the book.

The fine photography and the thoroughness with which *Old Sturbridge Village* was compiled have made it an outstanding camera impression of this remarkable community. It can only be regretted that the photographs were crowded on so small a page and not displayed to full advantage.

(*Reviews continued on page 382*)

Schools for the Very Young

by HEINRICH H. WAECHTER, A.I.A.
and ELISABETH WAECHTER



THOUGH many volumes have been written about school design, "Schools for the Very Young," a brand new book just off the press, is — so far as we know — the first in which an architect and a child educator have collaborated to provide an up-to-date treatise on the requirements of the particular type of school demanded for the proper training of the very young child.

Beginning with a brief yet adequate historical and philosophical background, in which the development of the theory and practice of child education is discussed, the book goes on to describe the pre-school in action, noting the events of the school day and the corresponding environmental needs of the children and their teachers. Examples of existing pre-schools are presented with critical comment. Detailed information is given concerning the space apportionments and arrangements called for by the activities peculiar to such institutions. Since one of the authors is especially concerned with city planning, the relation of the pre-school to its neighborhood and community is analyzed, and the many different types of pre-schools that have developed to meet special conditions are enumerated and explained.

The outdoor space and its proper equipment are thoroughly covered from the standpoint of a capable architect who has given much thought to the problem. Technological problems of construction, lighting, ventilation, mechanical equipment, etc., are scrutinized in the light of the most recent practice. A wealth of illustrations add both interest and information, and a selective bibliography will aid further study.

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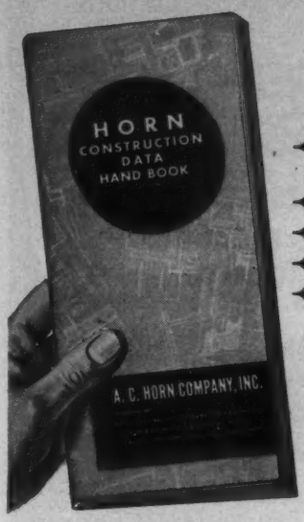
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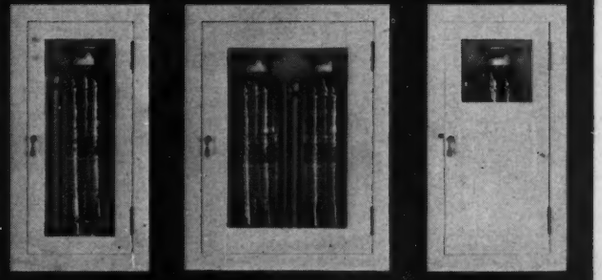
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NEW EDITIONS

(*Continued from page 380*)

CIVIL ENGINEERING DATA

Design. By Elwyn E. Seelye. John Wiley & Sons, Inc. (440 4th Ave., New York 16, N. Y.), 1951. 9½ by 12 in. 521 pp., illus. $10.00.

This is the second, and completely revised and expanded edition of Mr. Seelye's well known data book covering each main field of civil engineering: structures, sanitation, water supply, drainage, roads, airfields, docks, bridges and soils. New material in this edition includes in part: a non-technical discussion of soil mechanics, up-to-date airfield data and layouts, standards for swimming pools, and further data on highways including standards from the New Jersey Turnpike.

Companion volumes are a second edition of *Specifications and Costs*, which includes sample specifications for nearly every type of building and heavy construction, and *Field Practice*, which gives the engineer the data he needs to inspect engineering work.

BOOKS RECEIVED

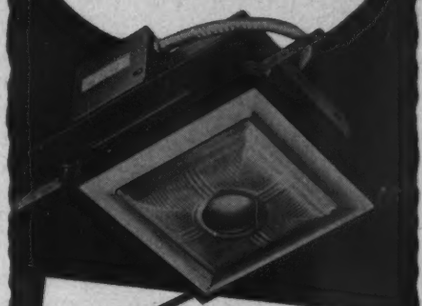
Shopping Centers, Design and Operation. By Geoffrey Baker and Bruno Funaro. Reinhold Publishing Corp. (330 W. 43rd St., New York, N. Y.) — Description and illustrations of neighborhood, community and regional shopping centers throughout the U. S., plus analyses of such problems as parking, freight handling, pedestrian circulation, etc.

Two-Thirds of a Nation. By Nathan Straus. Alfred A. Knopf, Inc. (501 Madison Ave., New York, N. Y.) — A valuable and much needed summary of all aspects of present day housing, directed primarily to the needs of the middle-income group.

Architectural and Engineering Law. By Bernard Tomson. Reinhold Publishing Corp. (330 W. 42nd St., New York, N. Y.) — A legal guide for architects and engineers which helps to clarify the many state and federal regulations that apply to the architectural and engineering fields.

The Modern Factory. By Edward Mills, F.R.I.B.A. The Architectural Press (13, Queen Anne's Gate, S.W. 1, London) — The aim of this book is to encourage the construction of better designed factory buildings which will contribute to the welfare both of the worker and of the community.

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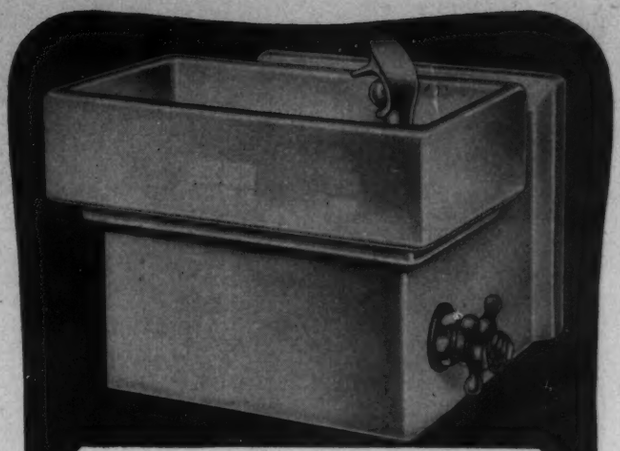
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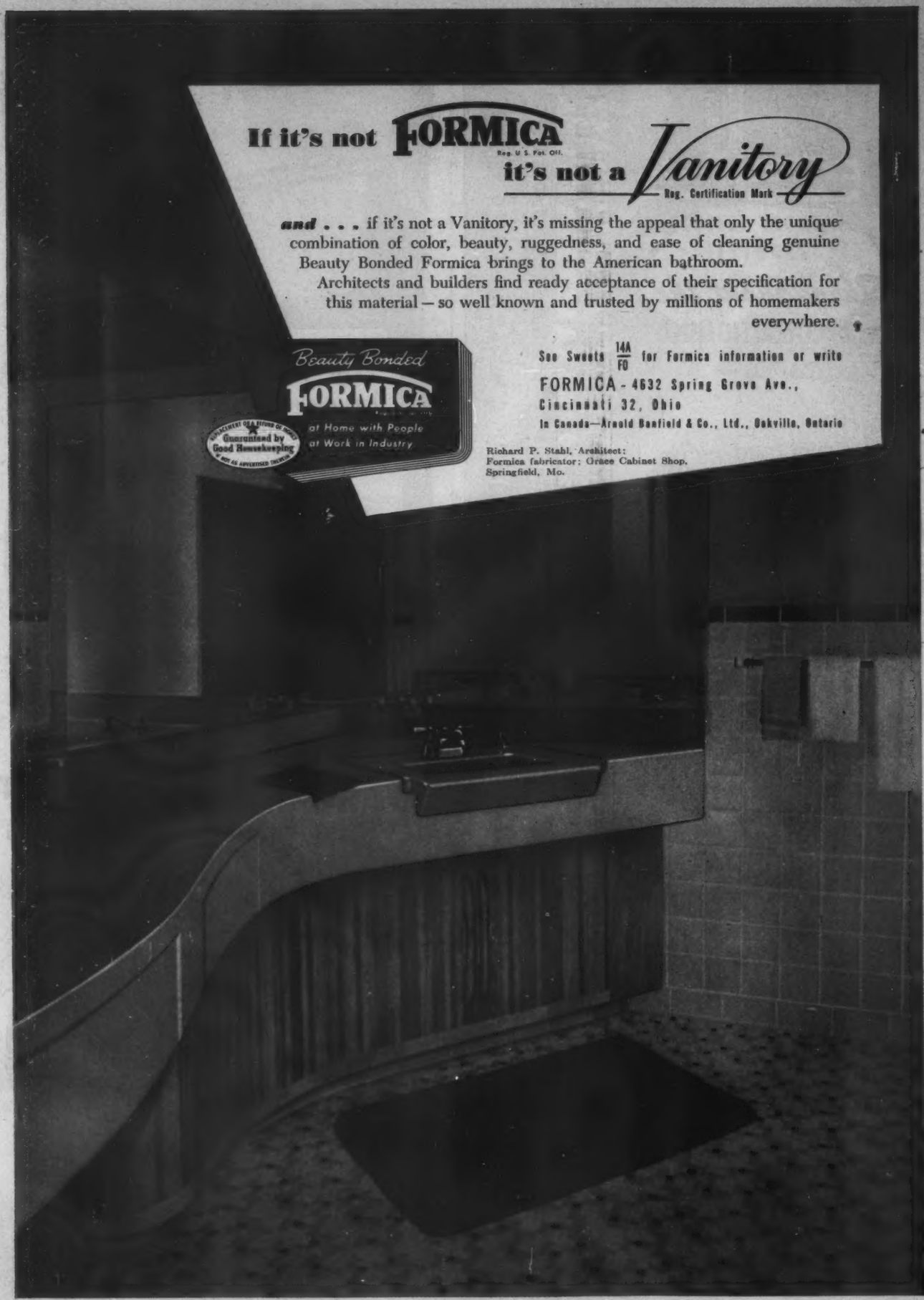
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